SOUTHERN CALIFORNIA EDISON®
An EDISON INTERNATIONAL® Company

Thomas J. Palmisano
Vice President & Chief Nuclear Officer

September 9, 2014 10 CFR 50.12

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D.C. 20555

Subject: **Docket No. 50-206, 50-361, 50-362, and 72-041**
Response to Request for Additional Information
Regarding Emergency Planning Exemption Request
San Onofre Nuclear Generating Station, Units 1, 2, 3 and ISFSI

Reference: (1) Letter from T. J. Palmisano (SCE) to the U.S. Nuclear Regulatory Commission (NRC) dated March 31, 2014; Subject: Docket Nos. 50-206, 50-361, 50-362, and 72-041, Emergency Planning Exemption Request, San Onofre Nuclear Generating Station, Units 1, 2, 3, and Independent Spent Fuel Storage Installation

(2) Letter from T. J. Wengert (NRC) to T. J. Palmisano (SCE) dated August 27, 2014; Subject: San Onofre Nuclear Generating Station Units 1, 2 and 3, Request for Additional Information Re: Emergency Planning Exemption Request (TAC NOS 3835, 3836 and 3837)

Dear Sir or Madam:

By letter dated March 31, 2014 (Reference 1), Southern California Edison (SCE) submitted an exemption request from certain requirements of 10 CFR 50.47, "Emergency Plans," and 10 CFR Part 50, Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities," for San Onofre Nuclear Generating Station (SONGS) Units 1, 2, and 3, and the Independent Spent Fuel Storage Installation (ISFSI). Granting the exemptions requested is necessary to support review and approval of a Permanently Defueled Emergency Plan and associated Emergency Action Levels both of which are being addressed separately.

By letter dated August 27, 2014 (Reference 2), the NRC requested additional information related to the proposed exemption request. The response to the NRC request for additional information is contained in Enclosure 1 to this letter. The response results in changes to the proposed exemptions of Reference 1. A revised exemption table is provided as Enclosure 2 to this letter. The conclusions of the no significant hazards consideration and environmental considerations contained in Reference 1 are not affected by, and remain applicable to, this revised request.

P.O. Box 128
San Clemente, CA 92672
(949) 368-6575 PAX 86575
Fax: (949) 368-6183
Tom.Palmisano@sce.com

AV45
NMSS26

There is one new regulatory commitment in this submittal. See Enclosure 3 for details.

Should you have any questions, or require additional information, please contact Ms. Andrea Sterdis at (949) 368-9985.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on 9/9/2014

Sincerely,

Enclosure 1: Response to NRC Request for Additional Information
Attachment A: SONGS Units 2 and 3 Fuel Management Records
Attachment B: ORIGEN-ARP/ORIGEN-S input files
Enclosure 2: Modified Exemption Table, Emergency Planning Exemption Request
Enclosure 3: Regulatory Commitments

cc: M. L. Dapas, Regional Administrator, NRC Region IV
T. J. Wengert, NRC Project Manager, SONGS Units 2 and 3
R. E. Lantz, NRC Region IV, San Onofre Units 2 and 3
G. G. Warnick, NRC Senior Resident Inspector, SONGS Units 2 and 3
S. Y. Hsu, California Department of Public Health, Radiologic Health Branch

ENCLOSURE 1

Response to NRC Request for Additional Information

Regarding Emergency Planning Exemption Request

NRC Request for Additional Information

By letter dated August 27, 2014, the NRC provided Requests for Additional Information (RAIs) regarding Southern California Edison's (SCE's) Emergency Planning exemption request dated March 31, 2014. The following are the NRC RAIs and the SCE responses.

NRC RAI:

By letter dated March 31, 2014 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14092A332), Southern California Edison (SCE) requested exemptions from portions of Part 50 of Title 10 of the *Code of Federal Regulations* (10 CFR 50) for the San Onofre Nuclear Generating Station (SONGS) Units 1, 2 and 3 Radiological Emergency Response Plan. Specifically, SCE requested and [*sic*] exemption from certain emergency plan requirements of 10 CFR 50.47(b), 10 CFR 50.47(c)(2), and Section IV to Appendix E of 10 CFR 50. The requested exemptions would allow SCE to reduce emergency plan requirements and subsequently revise the SONGS Radiological Emergency Response Plan consistent with the permanently defueled condition of the reactors.

SONGS Unit 1 was permanently shutdown in 1992 and completed permanent defueling in March 1993. SCE actively decommissioned the facility, and most of the structures and equipment have been removed and disposed.

By letter dated September 12, 2013 (ADAMS Accession No. ML131640201), SCE submitted certification to the U.S. Nuclear Regulatory Commission (NRC) indicating its intention to permanently cease power operations at SONGS Units 2 and 3 as of June 7, 2013, pursuant to 10 CFR 50.82(a)(1)(i). By letters dated June 28, 2013 and July 22, 2013 (ADAMS Accession Nos. ML13183A391 and ML13204A304, respectively), SCE submitted certifications to the NRC for the permanent removal of fuel from the Unit 2 and Unit 3 reactor vessels, pursuant to 10 CFR 50.82(a)(1)(ii). Upon docketing of certifications of the permanent cessation of power operations and for the permanent removal of fuel from the reactor vessels pursuant to 10 CFR 50.82(a)(1)(ii), the 10 CFR Part 50 licenses for SONGS Units 2 and 3 no longer authorize operation of the reactors, or emplacement or retention of fuel into the reactor vessels, as specified in 10 CFR 50.82(a)(2).

In reviewing the request for exemption, the NRC staff used precedent from past emergency preparedness (EP)-related decommissioning exemption reviews, including the reviews submitted for the EP rule changes effective November 23, 2011. The staff also informed our review with guidance and regulations applicable to an Independent Spent Fuel Storage Installation. The staff also considered the analysis described in NUREG-1738, "Technical Study of Spent Fuel Pool Accident Risk at Decommissioning Nuclear Power Plants," February 2001(ADAMS Accession No. ML010430066).

Based on the NRC staff's initial review of SCE's March 31, 2014, EP exemption request, the following draft requests for additional information (RAIs) are required to facilitate completion of the staff's technical review:

> Note: In the following RAIs, ~~**bold strike out**~~ text indicates the requested exemption from rule language. Item numbers are the numbers in the left hand column in Table 1 of Enclosure 2 of the application.

(MF3835) RAI-001

The basis for exemption of Item 1 in Table 1 (Enclosure 2) is generic and does not state specifically why SONGS should be considered for exemption. Similarly, the following item numbers also contain only generic information in the basis for exemption: 3, 4, 5, 9, 11, 17, 18, 20, 23, 25, 26, 32, 43, 48 and 49. Please provide justifications specific to SONGS for granting the exemptions listed above.

SCE Response:

SONGS exemption request dated March 31, 2014 (Reference 1) provided a table of proposed exemptions and associated justifications (Reference 1, Enclosure 2, Table 1), hereafter referred to as the proposed exemption table. Enclosure 2 of this submittal contains a modified version of SONGS proposed exemption table, hereafter referred to as the modified exemption table. The first column of the modified exemption table shows the requested exemptions as modified by this RAI response. The second column shows the modified bases for requesting exemption. Note that the modified exemption table includes only those elements affected by RAIs but does not withdraw SCE's request for the remaining elements of the proposed exemption table.

The modified exemption table provides a revised basis for exemption, including information specific to SONGS, for Item 1 of the proposed exemption table. As noted in the response to RAI-002, the site-specific bases for most of the proposed exemptions is the same. That is, no currently applicable Design Basis Accident (DBA) has dose consequences in excess of requirements and the heat-up rate for beyond design basis event meets noted regulatory guidance.

In addition, the modified exemption table provides information specific to SONGS, including a revised basis for exemption for items 3, 4, 5, 9, 11, 17, 18, 20, 23, 25, 26, 32, 43, 48 and 49 of the proposed exemption table.

(MF3835) RAI-002

The basis for exemption of Item 1 in Table 1 (Enclosure 2) does not address design-basis accidents (DBAs). Please provide a discussion justifying that no currently applicable DBA will exceed U.S. Environmental Protection Agency (EPA) Protective Action Guides.

SCE Response:

Reference 1, Enclosure 1, Section 3 addresses Design Basis Accidents at SONGS by providing a summary of the limiting currently applicable DBA and the resulting dose consequences. That discussion demonstrates that the dose consequences at the Exclusion Area Boundary from the remaining applicable DBAs, calculated as of August 2013, are within the applicable regulatory limits, including the U.S. Environmental Protection Agency (EPA) Protective Action Guides. All applicable DBAs (listed below) were updated. The DBAs can be effectively grouped as Radioactive Waste Gas Releases, Fuel Handling Accidents, Load Handling Events and Spent Fuel Pool Boiling Events. The limiting DBA results from a dose perspective are summarized in Reference 1, Enclosure 1 Section 3 as previously noted. Further, results from beyond design basis events are also addressed. The site-specific justification in Item 1 of the Exemption Table was clarified to better reflect SONGS treatment of both DBA and Beyond DBA events. It is worth noting that the DBA doses and adiabatic heat-up timing are the key plant-specific results upon which most of the proposed exemptions are based. This will be noted as appropriate in the modified Table.

CURRENTLY APPLICABLE DESIGN BASIS ACCIDENTS

15.7.3.1	Radioactive Waste Gas System Leak or Failure
15.7.3.2	Radioactive Waste System Leak or Failure (Release to Atmosphere)
15.7.3.3	Postulated Radioactive Releases Due to Liquid Tank Failures
15.7.3.4	Design Basis Fuel Handling Accident Inside Fuel Building
15.7.3.5	Spent Fuel Cask Drop Accidents
15.7.3.7	Test Equipment Drop
15.7.3.8	Spent Fuel Pool Boiling Accident
15.7.3.10	Spent Fuel Assembly Drop
15.7.3.11	Use of Miscellaneous Equipment Under 2000 lbs.

(MF3835) RAI-003

Item 29 in Table 1 (Enclosure 2) states the following: "Appendix E.IV.D.3: A licensee shall have the capability to notify responsible State and local governmental agencies ~~**within 15 minutes**~~ **promptly (within 60 minutes)** after declaring an emergency."

The NRC staff cannot approve the addition of rule language via an exemption, only by issuing rulemaking. Please provide the site-specific justification for extending the notification time beyond 15 minutes, including the notification time to which SONGS will be committed to.

SCE Response:

SCE has revised Item 29 of the proposed exemption table. The changes provided in the modified exemption table, Item 29, remove the previously proposed text in the left-hand column referring to a 60-minute notification requirement, provide a site-specific justification for the exemption is provided, and reference a proposal for a 60 minute limit for notifications in the Permanently Defueled Emergency Plan.

(MF3835) RAI-004

Item 40 in Table 1 (Enclosure 2) contains no justification for deletion of "Civil Defense" and "local news media persons". Please provide site-specific justification for exempting these requirements.

SCE Response:

The modified exemption table, Item 40, provides a site-specific justification for the deletion of "Civil Defense" and "local news media persons."

(MF3835) RAI-005

Justifications for Items 46 and 47 in Table 1 (Enclosure 2) state: "see basis for section IV.2." The basis for section IV.2 states "see basis for 50.47(b)(10)." Please provide specific justification for these two items or reference the correct section.

SCE Response:

Items 46 and 47 of the proposed exemption table address State and local participation in ingestion pathway Emergency Planning Zone (EPZ) and plume exposure pathway EPZ exercises. The plume exposure pathway EPZ and the ingestion pathway EPZ would be eliminated by the proposed exemption to 10 CFR 50.47(c)(2), described in Item 10 of the proposed exemption table.

The modified exemption table provides justifications for Items 46 and 47 that refer to the basis for exemption from Item 1, 10 CFR 50.47(b), as modified in response to RAIs 1 and 2, above. The modified basis for Item 1 provides design basis and beyond-design-basis accident analysis results justifying that the offsite emergency planning requirements are no longer necessary.

(MF3835) RAI-006

10 CFR	SONGS Request Wording	Past Precedent Wording
50.47(b)(10)	~~A range of protective actions has been developed for the plume exposure pathway EPZ for emergency workers and the public. In developing this range of actions, consideration has been given to evacuation, sheltering, and as a supplement to these,the prophelactic use of potassium iodide (KI), as appropriate. Evacuation time estimates have been developed by applicants and licensees. Licensees shall update the evacuation time estimates on a periodic basis. Guidelines for the choice of protective actions during an emergency, consistent with Federal guidance, are developed and in place, and protective actions for the ingestion exposure pathway EPZ appropriate to the locale have been developed.~~	A range of protective actions has been developed for ~~the plume exposure pathway EPZ for~~ emergency workers and the public. ~~In developing this range of actions, consideration has been given to evacuation, sheltering, and as a supplement to these,the prophelactic use of potassium iodide (KI), as appropriate. Evacuation time estimates have been developed by applicants and licensees. Licensees shall update the evacuation time estimates on a periodic basis. Guidelines for the choice of protective actions during an emergency, consistent with Federal guidance, are developed and in place, and protective actions for the ingestion exposure pathway EPZ appropriate to the locale have been developed.~~

Although formal offsite radiological EP plans have typically been exempted for decommissioning sites, offsite organizations continue to be relied upon for firefighting, law enforcement, ambulance and medical services in support of the licensee's (onsite) emergency plan. Additionally, the licensee is responsible for control of activities in the Exclusion Area, including public access. Please provide further justification as to why this requirement would not be applicable based on the context described above.

SCE Response:

The intent of the originally requested exemption was to continue to rely on State and local organizations for firefighting, law enforcement, ambulance, and medical services as needed for events at the site without the need for these organizations to provide formal offsite radiological emergency response. Agreements have been executed with offsite organizations, and will be modified as necessary to reflect the proposed Permanently Defueled Emergency Plan, to provide for support of the SONGS Emergency Plan in the form of Letters of Agreement (LOA). The LOAs will continue to be required per 10 CFR 50.47(b)(3) and applicable details are provided as Appendix 3 of the SONGS proposed Permanently Defueled Emergency Plan, provided as Enclosure 2 of Reference 2. Additionally, SCE will continue to control activities, including public access, within the Exclusion Area Boundary in accordance with applicable regulations and the current SONGS licensing basis.

SCE agrees with the revised 'past precedent' wording the NRC provided in its RAI. Therefore, SCE has revised the originally requested exemption for portions of 10 CFR 50.47(b)(10) as shown in the modified exemption table, Item 9.

(MF3835) RAI-007

10 CFR	SONGS Request Wording	Wording Based on Recent EP Rule SOC
Appendix E.IV.A.7	~~By June 23,2014~~ Identification of, ~~and a description of~~ the assistance expected from appropriate State, local, and Federal agencies with responsibilities for coping with emergencies~~,~~ ~~including hostile action at the site. For purposes of this appendix, "hostile action" is defined as an act directed toward a nuclear power plant or its personnel that includes the violent force to destroy equipment, take hostages, and/or intimidate the licensee to achieve an end. This includes attack by air, land, or water using guns, explosives, projectiles, vehicles or other devices used to deliver destructive force~~.	~~By June 23,2014~~ Identification of, ~~and a description of~~ the assistance expected from appropriate State, local, and Federal agencies with responsibilities for coping with emergencies, including ~~hostile action at the site. For purposes of this appendix, "hostile action" is defined as~~ an act directed toward a nuclear power plant or its personnel that includes the violent force to destroy equipment, take hostages, and/or intimidate the licensee to achieve an end. This includes attack by air, land, or water using guns, explosives, projectiles, vehicles or other devices used to deliver destructive force.

Although the NRC has previously exempted decommissioning reactors from "hostile action" enhancements based on the applicability of the new EP Rule (as stated in the Statement of Considerations), some EP requirements for events are maintained, such as the classification of security-based events, notification of offsite authorities, and coordination for the response of offsite response organizations (i.e., firefighting, medical assistance) onsite. Please revise the requested exemption accordingly or provide further justification for exemption.

SCE Response:

SCE is revising the requested exemption from Appendix E to 10 CFR Part 50, IV.A.7, consistent with the NRC RAI ('Wording Based on Recent EP Rule SOC'). The modified exemption table, Item 21, provides the revised markup and provides additional justification.

(MF3835) RAI-008

10 CFR 50	SONGS Request Wording	Wording Based on Recent EP Rule SOC
Appendix E.IV.C.2	~~By June 20, 2012, nuclear power reactor~~ Licensees shall establish and maintain the capability to assess, classify, and declare an emergency condition ~~within 15 minutes~~ after the availability of indications to plant operators that an emergency action level has been exceeded and shall promptly declare the emergency condition as soon as possible following identification of the appropriate emergency classification level. Licensees shall not construe these criteria as a grace period to attempt to restore plant conditions to avoid declaring an emergency action due to an emergency action level that has been exceeded. Licensees shall not construe these criteria as preventing implementation of response actions deemed by the licensee to be necessary ~~to protect public health and safety provided that any delay in declaration does not deny the State and local authorities the opportunity to implement measures necessary to protect the public health and safety~~.	~~By June 20, 2012, nuclear power reactor~~ Licensees shall establish and maintain the capability to assess, classify, and declare an emergency condition ~~within 15 minutes~~ after the availability of indications to plant operators that an emergency action level has been exceeded and shall promptly declare the emergency condition as soon as possible following identification of the appropriate emergency classification level. Licensees shall not construe these criteria as a grace period to attempt to restore plant conditions to avoid declaring an emergency action due to an emergency action level that has been exceeded. Licensees shall not construe these criteria as preventing implementation of response actions deemed by the licensee to be necessary to protect public health and safety provided that any delay in declaration does not deny the State and local authorities the opportunity to implement measures necessary to protect the public health and safety.

State and local jurisdictions may take actions as part of their comprehensive emergency response (all-hazard) planning. Licensee actions shall not impede State and local authorities to respond to emergencies as they determine the need. Please provide specific justification for exempting this requirement or restore language consistent with revised wording proposed.

SCE Response:

SCE agrees that State and local jurisdictions may take actions as part of their comprehensive emergency response (all-hazards) planning. SONGS actions will facilitate and certainly not impede State and local authorities from responding to emergencies. The modified exemption table, Item 26, provides a revised markup of the regulation consistent with the RAI ('Wording Based on Recent EP Rule SOC'), and provides additional justification.

(MF3835) RAI-009

SCE requested exemptions from the requirements in 10 CFR 50 Appendix E.IV.E.9.a and 10 CFR 50 Appendix E.IV.E.9.c as indicated below:

10 CFR 50 Appendix E.IV.E.9.a

> Provision for the communications with contiguous State/local governments ~~**within the plume exposure pathway EPZ**~~. Such communications shall be tested monthly.

10 CFR 50 Appendix E.IV.9.E.c

> Provision for the communications among the ~~**nuclear power control room, the onsite technical support center, and the emergency response facility: and among the**~~ nuclear facility, the principle state and local emergency operations centers, ~~**and the field assessment teams**~~. Such communication shall be tested annually.

It appears to the NRC staff that 10 CFR 50 Appendix E.IV.E.9.c as exempted would be redundant to 10 CFR 50 Appendix E.IV.E.9.a. Please explain what different organizations would be contacted and what different communication systems would be tested for compliance with 10 CFR 50 Appendix E.IVE.9.c, as exempted, as opposed to the ones in 10 CFR 50, Appendix E.IV.E.9.a, as exempted.

SCE Response:

SONGS agrees that the remaining portions of 10 CFR 50, Appendix E, Sections E.IV.E.9.c are redundant to provisions remaining in 10 CFR 50, Appendix E, Section IV.E.9.a, b, and d and therefore propose an exemption from Section E.IV.E.9.c in its entirety. The modified exemption table, Item 38, provides a revised markup of the regulation and provides additional justification.

(MF3835) RAI-010

Exemption of requirements to emergency planning requirements, as requested, partially depends on the ability of the licensee to mitigate the consequences of design basis and beyond DBAs.

Please describe the actions SONGS could take to mitigate the consequences of an event involving the spent fuel pool (SFP). Include in the description:

- Permanently installed equipment available to fill or spray the SFP
- On-site portable equipment available to fill or spray the SFP
- Off-site equipment available to fill or spray the SFP
- Available water sources
- Written procedures to perform the mitigation strategies and how they are maintained
- The personnel who would perform these mitigation strategies and how they are trained
- How the equipment used in the mitigating strategies are stored, maintained and tested
- Approximate times it would take to deliver, setup, and start delivering makeup/spray to the SFP using portable equipment
- How makeup/spray could be delivered to the SFP in the event that radiation levels at the SFP prohibited entry to the area

SCE Response:

Mitigation strategies associated with storage of irradiated fuel in spent fuel pools have been addressed through a number of regulatory actions. In addition to Emergency Planning guidance (NSIR/DPR-ISG-02, "Interim Staff Guidance,

Emergency Planning Exemption Requests for Decommissioning Nuclear Power Plants") it was addressed as part of the response to the Security Orders following the Attacks on the World Trade Center (EA-02-026, B.5.b) which evolved into 10 CFR 50.54(hh) and License Condition 2.C(26) and was readdressed as part of the response to the Fukushima Order (EA-12-049, Mitigating Strategies Order). Although the underlying rule (10 CFR 50.54 (hh)) is not applicable to permanently defueled plants and the Fukushima Orders were (for SONGS) appropriately rescinded, the current License Condition 2.C(26) continues to apply and requires SONGS to maintain mitigation strategies associated with storage of irradiated fuel in spent fuel pools.

As discussed with the NRC staff during a teleconference on July 23, 2014, SCE has proposed, via the Permanently Defueled Technical Specification (PDTS) LAR (Reference 3), retention of a modified form of the current Mitigation Strategy License Condition specifically retaining the Spent Fuel Pool aspects. The NRC Staff has not approved the PDTS or concurrent changes to the Operating License including the proposed revision to the Mitigation Strategy License Condition. Whether the current License Condition text is retained or the change to more focused text is approved, it will remain an obligation to retain appropriate capabilities and keep the NRC well-informed with regard to the associated details as required by the SONGS Commitment Management process.

On January 2, 2014 (Reference 4), SCE submitted modified commitments based on the most recent changes to the SONGS detailed strategies. The information provided in Reference 4 addresses any changes made to our commitments relating to the first 4 bullets in this RAI. In particular, they focus the commitments on technical aspects associated with mitigation of spent fuel pool related events. There were no proposed changes to our commitments relating to the following 3 bullets (procedures, training or testing). These aspects continue to be addressed as described in SCE's Mitigating Strategies License Amendment (Reference 5).

The number of permanently installed flow-paths and sources will be reduced as systems are abandoned to support an appropriate plant configuration leading into active demolition. As such changes are considered, protection of stored spent fuel remains the nuclear safety priority. Significant plant configuration changes will continue to be docketed in accordance with the commitment management process.

Bullets 8 and 9 are not explicitly addressed in the current program or Reference 4. If an excessive drain down event was to occur and no installed equipment was available, portable equipment is housed on-site and can be set-up within 3 hours. SONGS can also use fire equipment from adjacent off-site support (Camp Pendleton) in a similar time frame. As

described in Reference 4, the SONGS strategies include options that do not require access to the spent fuel building(s) or the refueling floors.

(MF3835) RAI-011

The Executive Summary in NUREG-1738 states, in part,

> ... the staff's analyses and conclusions apply to decommissioning facilities with SFPs that meet the design and operational characteristics assumed in the risk analysis. These characteristics are identified in the study as industry decommissioning commitments (IDCs) and staff decommissioning assumptions (SDAs). Provisions for confirmation of these characteristics would need to be an integral part of rulemaking.

The IDCs and SDAs are listed in NUREG-1738, Tables 4.1-1 and 4.1-2, respectively. Please explain the extent each of these IDCs and SDAs will be satisfied at SONGS during the decommissioning phase, considering proposed exemptions from portions of the emergency planning requirements of 10 CFR 50.47(b), 10 CFR 50.47(c)(2) and 10 CFR Part 50, Appendix E. With respect to the seismic checklist discussed in SDA No. 6, the explanation may focus on the reduced potential for a zirconium fire due to the delay in seeking emergency plan changes (i.e., a demonstration that the fuel has decayed such that it can be indefinitely cooled by natural circulation of air in its design storage configuration), as described in Item 10 of the checklist.

SCE Response:

SCE has reviewed SONGS compliance with each of the IDCs and SDAs and confirmed that the intent of each is met. The review results are documented in the UFSAR (Appendix 9A). A summary of the review is provided in the table below:

Item #	DESCRIPTION	SONGS ALIGNMENT
Industry Decommissioning Commitments		
1	Cask drop analyses will be performed or single failure-proof cranes will be in use for handling of heavy loads (i.e., phase II of NUREG-0612 will be implemented).	Single-failure proof crane will be in use to handle heavy loads.
2	Procedures and training of personnel will be in place to ensure that onsite and offsite resources can be brought to bear during an event.	Emergency Plan Implementing Procedures (EPIPs) and other Mitigating Strategies procedures are in place and include provisions for access to onsite and offsite resources. Appropriate personnel are trained on these procedures.
3	Procedures will be in place to establish communication between onsite and offsite organizations during severe weather and seismic events.	Emergency Plan Implementing Procedures provide communication protocols and practices.
4	An offsite resource plan will be developed which will include access to portable pumps and emergency power to supplement onsite resources. The plan would principally identify organizations or suppliers where offsite resources could be obtained in a timely manner.	Mitigation Strategy Procedures address portable equipment available on-site and off-site. The Emergency Plan Implementing Procedures address other off-site sources.

Item #	DESCRIPTION	SONGS ALIGNMENT
5	SFP instrumentation will include readouts and alarms in the control room (or where personnel are stationed) for SFP temperature, water level, and area radiation levels.	Spent Fuel Pool Level Alarms, as well as Temperature and Radiation Level indication, are available in the Main Control Room and will be maintained available in the new Command Center. Additionally, while there is no SFP level indication in the Main Control Room, SFP level indication is will be available in the new Command Center.
6	SFP seals that could cause leakage leading to fuel uncovery in the event of seal failure shall be self-limiting to leakage or otherwise engineered so that drainage could not occur.	Seals are located on gates which are at least two (2) feet above fuel stored in rack modules. The design of the seals provides further assurance of their reliability through redundant pressurization systems and other means. Local alarms would indicate less than normal operating pressure.
7	Procedures or administrative controls to reduce the likelihood of rapid drain-down events will include (1) prohibitions on the use of pumps that lack adequate siphon protection (2) controls for pump suction and discharge points. The functionality of anti-siphon devices will be periodically verified.	Such procedures or administrative controls are in place. The installed SFP cooling pumps include anti-siphon devices which are regularly verified. Similar design features are planned for the new spent-fuel pool islanding equipment (spent fuel pool cooling and filtration units not relying on permanent plant support systems).
8	An onsite restoration plan will be in place to provide repair of the SFP cooling systems or to provide access for makeup water to the SFP. The plan will provide for remote alignment of the makeup source to the SFP without requiring entry to the refuel floor.	SONGS Mitigation Strategies include means to provide makeup water to the Spent Fuel Pool with or without requiring entry to the refueling floor.

Item #	DESCRIPTION	SONGS ALIGNMENT
9	Procedures will be in place to control SFP operations that have the potential to rapidly decrease SFP inventory. These administrative controls may require additional operations or management review, management physical presence for designated operations or administrative limitations such as restrictions on heavy load movements.	SFP operations that have the potential to rapidly decrease SFP inventory are governed by the administrative controls described in procedures SO23-3-2.11, "Spent Fuel Pool Operations," and SO23-3-2.11.1 "SFP Level Change and Purification Cross-Tie Operations."
10	Routine testing of the alternative fuel pool makeup system components will be performed and administrative controls for equipment out of service will be implemented to provide added assurance that the components would be available, if needed.	Normal makeup to the spent fuel pools is from the Plant Makeup Water Storage Tank through a primary makeup water pump at a rate of 150 gal/min. Makeup may also be provided by two electric-driven fire pumps and one diesel-driven fire pump that can supply makeup water to the SFP via the Fire Water system. Administrative controls for these components, including surveillance requirements, limits on out-of-service time, and compensatory measures for out-of-service components, are contained in the SONGS Decommissioning Fire Protection Program.

Item #	DESCRIPTION	SONGS ALIGNMENT
Staff Decommissioning Assumptions		
1	Licensee's SFP cooling design will be at least as capable as that assumed in the risk assessment, including instrumentation. Licensees will have at least one motor-driven and one diesel-driven fire pump capable of delivering inventory to the SFP.	SONGS Mitigation Strategies do not rely solely on fire pumps. Sufficient redundancy and diversity are and will be provided through multiple sources as described in a letter to the NRC dated 1/2/2014 (ADAMS Accession #ML14007A164). From a risk-informed perspective it is important to note that pool cooling is not required and even loss of inventory does not have significant consequences based on the current level of decay heat production.
2	Walk-downs of SFP systems will be performed at least once per shift by the operators. Procedures will be developed for and employed by the operators to provide guidance on the capability and availability of onsite and offsite inventory makeup sources and time available to initiate these sources for various loss of cooling or inventory events.	Procedures will be revised to ensure that walk-downs and patrols are periodically (no less than once a shift) performed. Mitigating strategy procedures provide the necessary guidance.

Item #	DESCRIPTION	SONGS ALIGNMENT
3	Control room instrumentation that monitors SFP temperature and water level will directly measure the parameters involved. Level instrumentation will provide alarms at levels associated with calling in offsite resources and with declaring an emergency.	Level (alarm only) and temperature instrumentation that is based on direct measurement of the relevant parameters is currently provided in the Main Control Room and will be available in the Command Center. While SFP level is not associated with an Emergency Action Level in the SONGS proposed Permanently Defueled EALs (currently under NRC review), a Spent Fuel Pool High Temperature alarm is currently available in the Main Control Room to alert personnel if temperature approaches the proposed EAL PD-SU1 limit of 140°F.
4	Licensee determines that there are no drain paths in the SFP that could lower the pool level (by draining, suctioning, or pumping) more than 15 feet below the normal pool operating level and that licensee must initiate recovery using offsite sources.	There are no such drain paths in the SONGS Units 2 or 3 Spent Fuel Pools. Level recovery is the focus of the Spent Fuel Pool Mitigating Strategies and includes on-site and off-site options.
5	Load drop consequence analysis will be performed for facilities with non-single failure-proof systems. The analyses and any mitigative actions necessary to preclude catastrophic damage to the SFP that would lead to a rapid pool draining would be sufficient to demonstrate that there is high enough confidence in the facilities ability to withstand a heavy load drop.	SONGS utilizes single-failure proof cranes for such loads.

Item #	DESCRIPTION	SONGS ALIGNMENT
6	Each decommissioning plant will successfully complete the seismic checklist provided in Appendix 2B to this study. If the checklist cannot be successfully completed, the decommissioning plant will perform a plant specific seismic risk assessment of the SFP and demonstrate that SFP seismically induced structural failure and rapid loss of inventory is less than the generic bounding estimates provided in this study (1x10-5 per year including non-seismic events).	SONGS thermal hydraulic analyses demonstrate that even under the conditions described in the Interim Staff Guidance for Emergency Planning Exemption Requests (rapid drain and adiabatic heat-up) the hottest fuel assembly pins will not exceed 900C for over 10 hours. Further, the maximum temperature is less than 565C when air-cooling is credited. See information following this table for a summary of the air-cooled calculations. Based on this demonstration that the fuel has decayed such that it can be indefinitely cooled by natural circulation of air, SCE has not performed the seismic checklist.
7	Licensees will maintain a program to provide surveillance and monitoring of Boraflex in high-density spent fuel racks until such time as spent fuel is no longer stored in these high-density racks.	Soluble boron concentration, not Boraflex, is credited for reactivity control in the SONGS Units 2 or 3 spent fuel pools.

Air-cooled calculation summary:

Subsequent to the SONGS exemption request submittal (Reference 1), an air-cooled calculation was completed. This calculation was performed as outlined below:

The purpose of the spent fuel pool air cooled calculation is to determine the date by which the spent fuel has decayed to the point that its internal heat generation rate is low enough to preclude the zirconium cladding from reaching a target temperature following a complete loss of water inventory from the Unit 2 or Unit 3 spent fuel pool. Per NUREG/CR-6451, 565°C (1049°F) is the lowest temperature for incipient cladding failure and thus was selected as the

appropriate target. Selection of such a low target temperature not only precludes self-sustaining zirc fire but limits any release of radioactive materials.

The analysis was performed in two major steps. First, maximum quasi steady-state air temperatures throughout the Unit 2 Fuel Handling Building (FHB), including the down-comers, were determined using the GOTHIC (Version 8) computer program. The Unit 2 FHB was modeled in this case because its pool has a greater total spent fuel heat generation rate. The spent fuel pool heat generation rate was calculated using the guidance provided in NUREG-0800 ASB 9-2. The maximum down-comer air temperature was then used in the second step—the calculation of the maximum temperature of the zirconium cladding using the COBRA-SFS computer program. The COBRA-SFS model contains the maximum heat load (Cycle 16) assembly placed face-adjacent to two earlier discharged assemblies at their limiting heat load. With adiabatic boundary condition applied to this three-assembly model, the configuration is equivalent to modeling the other two adjacent assemblies as also being bounding Cycle 16 assemblies. This configuration is conservative based on the inspection of SONGS 2 and 3 spent fuel pool configurations.

Results of this analysis show that the surface temperature of the cladding in the spent fuel pools will not exceed the target temperature (565°C) following a total loss of water from the SFP on or after August 31, 2014, which is 31 months after shutdown. Fuel cladding remains below the critical temperature due to adequate heat rejection from the bounding assembly to the surrounding assemblies, and from the SFP to the outside, primarily via the FHB ventilation system. For comparison, NUREG/CR-6451 estimates that a decay time of about 17 months is required for a represented PWR spent fuel pool to reach this state.

Key inputs for the analysis are the same as the adiabatic case with the following additional inputs needed to support the GOTHIC model for the calculation of maximum down-comer temperature and input to support COBRA-SFS:

1. Spent Fuel Pool total heat generation rate for August 31, 2014 is 2.765×10^6 BTU/hr

2. Plant specific parameters of the FHB, including dimensions, floor elevations, wall thicknesses, and air volume are used in the GOTHIC model.

3. FHB normal ventilation supply and exhaust subsystem, such as junction elevations, flow rates, duct lengths and sizes, and fitting dimensions are considered in the GOTHIC model.

4. Thermal radiation between heat sinks and the surrounding vapor is included in the GOTHIC model. Conservative values of emissivity (0.88 for concrete and 0.22 for stainless steel) are used.

5. GOTHIC model includes energy input from FHB lighting and solar radiation absorbed by the FHB walls and roof. Input to solar radiation calculation is based on ASHRAE 2009.

6. Climate data (design dry-bulb temperature, mean coincident wet-bulb temperature, mean coincident dry-bulb temperature range, and mean coincident wet-bulb temperature range) are based on ASHRAE 2009 for the vicinity of SONGS area. All values are based on 5% occurrence for the month of September (hottest month in the year) meaning that the outside temperatures predicted using these values bound 95% of the available data.

7. Detailed spent fuel rack and fuel assembly geometry, material composition, and thermal properties are included in the GOTHIC/COBRA-SFS models. A conservative form resistance coefficient of 100 is used in the COBRA-SFS calculation.

8. In the COBRA-SFS model, the heat generation rate for the limiting Cycle 16 fuel assembly and the two identical adjacent assemblies for August 31, 2014 are 8,293 BTU/hr and 3,476 BTU/hr, respectively.

Key results are:

1. Peak cladding temperature as of August 31, 2014 is 1027 °F (553 °C). This is less than the maximum allowable temperature of 1049°F (565°C).

2. Maximum down-comer temperature from GOTHIC is 230 °F. A more conservative value of 235 °F is used in COBRA-SFS calculation.

3. Down-comer temperature rise is 21 °F.

The COBRA model shows that the limiting Cycle 16 assembly outlet average air temperature is 1005 °F and the adjacent assemblies are 759 °F.

(MF3835) RAI-012

The NRC staff determined that the description of the analysis of the adiabatic heatup of the hottest fuel assembly was incomplete as presented in Section 4.1 of Enclosure 1 to the exemption request letter dated March 31, 2014. Please provide the following additional information regarding this analysis:

- the information in the fuel management records (mentioned in Section 4.1.2)
- the process used to determine the limiting assembly from these records, including how assembly axial and core radial power distributions were considered
- the decay heat model used to determine the decay heat rate as a function of decay time
- the source and value used for the specific heat of the uranium dioxide in the limiting assembly
- since two different values of uranium dioxide density are provided (by fuel vendor), specify which value was used for the hottest fuel assembly and why that application is limiting

SCE Response:

1. The information in the fuel management records includes: individual fuel assembly uranium loading; enrichment; burn-up; and, final discharge date. These data were considered in the spent fuel pool adiabatic heat-up calculation and subsequently in the air-cooled heat up calculation cases. The data are provided in Attachment A.

2. The process used to determine the limiting assembly can be outlined as follows:

    - SONGS fuel assemblies have been discharged for at least thirty-one (31) months. For fuel assemblies with long cooling times the decay heat is primarily affected by the discharge burn-up and cooling time.

    - Fuel assembly discharge burn-up and cooling time from the fuel management records (Attachment A) were reviewed to identify the fuel assembly with the highest fuel assembly burn-up in the cycle which has the shortest cooling time. The discharged fuel assembly with the highest fuel assembly burn-up in the cycle which has the

shortest cooling time (i.e., Unit 2, Cycle 16) is fuel assembly S2R013. Unit 3 spent fuel pool heat load is bounded by Unit 2 because of the shorter length of the last operating cycle.

- Core radial power distribution is implicitly considered via the selection of the highest burn-up assembly.

- The assembly axial power distribution is not explicitly modeled. It is reasonable to model the entire assembly as heating together at the assembly average decay heat because the heat generation rate is very low and the target heat up time is high (> 10 hours). Conduction and radiative heat transfer will result in axial uniformity of cladding temperature.

3. The decay heat generation rates for the limiting fuel assembly in the SFP are determined using the ORIGEN-ARP/ORIGEN-S modules within the SCALE 6 computer code package. Input parameters to ORIGEN-ARP/ORIGEN-S include: fuel type, initial uranium mass, initial U-235 enrichment, fuel assembly burn-up, specific power, light element weights, and cooling time. Decay heat generation rates for the limiting fuel assembly in the SFP are determined for a target date of 6/12/13 and at four month increments until 6/12/15 and at subsequent six month increments until 12/12/16. Therefore, using the aforementioned fuel assembly parameters, one ORIGEN-ARP/ORIGEN-S run is made for this fuel assembly. The ORIGEN-ARP/ORIGEN-S input files for the limiting fuel assembly model are provided in Attachment B.

4. The source and value used for the specific heat of the uranium dioxide in the limiting assembly was developed as follows. The specific heat of uranium dioxide (UO_2) is calculated using Equation 2.2-1 in NUREG/CR-7024, "Material Property Correlations: Comparisons between FRAPCOM-3.4, FRAPTRAN 1.4, and MATPRO," March 2011. The equation is shown below.

$$Cp = \frac{K_1\theta^2 \exp(\theta/T)}{T^2\left[\exp(\theta/T)-1\right]^2} + K_2 T + \frac{YK_3E_D}{2RT^2}\exp(-E_D/RT)$$

Where:

Cp is the specific heat in J/kg-K
K1, K2, K3, are constants for UO_2 of 296.7 J/kg-K, 2.43x10-2 J/kg-K^2, and $8.745x10^7$ J/kg
θ is the Einstein temperature and is 535.285 K for UO_2
T is the temperature of the UO_2
Y is the oxygen to metal ratio
E_D is the activation energy for Frenkel Defects and is $1.577x10^5$ J/mol
R is the universal gas constant 8.3143 J/mol-K

The third term in this summation is negligible at temperatures below 900 K and is ignored. Ignoring the term is conservative because it very slightly reduces the specific heat, which reduces the heat-up time. Per Figure 2.2-1 in NUREG/CR-7024, the heat capacity of uranium is concave over the range of temperatures of this analysis (140 °F/333 K and 1049 °F/838 K). A conservatively low value for specific heat for the range of temperatures considered is selected as the average of the specific heats at those two temperatures. The specific heat for UO_2 is calculated for 333K and 838 K and the average of the two values is used in the adiabatic heat-up calculation.

5. A density for uranium dioxide of 94.5% TD (Theoretical Density) is used in this analysis. This is appropriate because use of a lower uranium density percentage results in a lower thermal mass and thus a shorter heat-up time. The value of 94.5% TD is the lowest stack density shown in the vendor manufacturing specifications.

References

1. Letter from Thomas J. Palmisano (SCE) to Document Control Desk (NRC) dated March 31, 2014; Subject: Docket Nos. 50-206, 50-361, 50-362, and 72-041, Emergency Planning Exemption Request, San Onofre Nuclear Generating Station, Units 1, 2, 3, and Independent Spent Fuel Storage Installation (ADAMS Accession #ML14092A332)

2. Letter from Thomas J. Palmisano (SCE) to Document Control Desk (NRC) dated March 31, 2014; Subject: Docket Nos. 50-206, 50-361, 50-362, and 72-041, Amendment Application Numbers 223, 267, and 252, Permanently Defueled Emergency Plan, San Onofre Nuclear Generating Station, Units 1, 2, and 3, respectively, and Independent Spent Fuel Storage Installation (ADAMS Accession #ML14092A314)

3. Letter from Thomas J. Palmisano, (SCE) to Document Control Desk (NRC) dated March 21, 2014; Subject: Docket Nos. 50-361 and 50-362, Amendment Application Numbers 266 and 251, Permanently Defueled Technical Specifications, San Onofre Nuclear Generating Station, Units 2 and 3 (ADAMS Accession #ML14085A141)

4. Letter from R. St Onge (SCE) to Document Control Desk (NRC) dated January 2, 2014; Subject: Docket Nos. 50-361 and 50-362, Commitment Change Report, San Onofre Nuclear Generating Station (ADAMS Accession #ML14007A164)

5. Letter from N. Kalyanam (NRC) to Richard M. Rosenblum (SCE) dated July 26, 2007; Subject: San Onofre Nuclear Generating Station, Units 2 and 3 – Conforming License Amendments to Incorporate the Mitigation Strategies Required by Section B.5.b of Commission Order EA-02-026 (TAC Nos. MD4564 and MD4565)

Attachment A

SONGS Units 2 and 3

Fuel Management Records

(Pages 11 through 60 of the original document)

5.0 SPENT FUEL POOL INVENTORY DISCHAGE AND BURNUP

The following pages list the assemblies in each spent fuel pool, along with their last irradiation date, and burnup in units of MWD/MTU. All data in this section is from Reference 7.3.1.

The Unit 2 spent fuel pool contains 1426 assemblies.
The Unit 3 spent fuel pool contains 1350 assemblies.

5.1 UNIT 2

S2A001	03/15/86	19305.6	S2B023	03/15/86	24581.1	S2B075	03/15/86	25075.5
S2A002	08/17/91	25536.9	S2B024	03/15/86	24993.8	S2B076	03/15/86	23819.6
S2A004	10/21/84	15031.7	S2B025	03/15/86	25320.1	S2B077	03/15/86	24942.9
S2A011	10/21/84	13876.5	S2B026	03/15/86	25877.6	S2B078	03/15/86	25372.1
S2A016	09/02/89	30530.2	S2B027	03/15/86	25938.7	S2B079	03/15/86	24655.7
S2A017	09/02/89	30733.2	S2B028	03/15/86	25934.8	S2B080	03/15/86	26682.7
S2A021	09/02/89	30919.6	S2B030	03/15/86	25848.9	S2C003	08/29/87	34566.6
S2A022	09/02/89	30890.4	S2B031	03/15/86	25939.4	S2C004	08/29/87	35991.7
S2A024	10/21/84	15232.6	S2B032	03/15/86	25611.6	S2C005	08/29/87	36214.2
S2A025	10/21/84	15475.0	S2B033	03/15/86	25074.4	S2C006	08/29/87	32444.0
S2A033	10/21/84	15039.9	S2B034	03/15/86	25744.4	S2C008	08/29/87	32490.6
S2A034	10/21/84	15285.2	S2B035	03/15/86	26606.6	S2C009	08/29/87	33951.1
S2A035	10/21/84	15196.1	S2B036	03/15/86	25979.9	S2C010	08/29/87	33646.8
S2A037	10/21/84	15284.5	S2B037	03/15/86	25313.0	S2C011	08/29/87	33946.6
S2A038	10/21/84	15245.8	S2B038	03/15/86	25827.2	S2C014	08/29/87	34316.8
S2A043	09/02/89	23935.3	S2B039	03/15/86	26065.9	S2C016	08/29/87	34108.4
S2A044	10/21/84	13710.6	S2B040	03/15/86	25156.6	S2C018	08/29/87	33677.4
S2A050	10/21/84	15276.4	S2B042	03/15/86	25340.8	S2C021	08/29/87	33936.7
S2A055	08/29/87	21163.9	S2B043	03/15/86	26166.7	S2C022	08/29/87	34732.6
S2A059	10/21/84	15207.5	S2B044	03/15/86	24970.0	S2C024	08/29/87	34623.0
S2A066	06/05/93	25461.0	S2B045	03/15/86	26111.3	S2C026	08/29/87	32467.1
S2AT02	10/21/84	15706.7	S2B046	03/15/86	24937.3	S2C027	08/29/87	34150.2
S2AT04	10/21/84	14826.9	S2B047	03/15/86	25751.4	S2C028	08/29/87	33975.1
S2B001	03/15/86	25712.6	S2B048	03/15/86	24574.5	S2C030	08/29/87	33742.9
S2B002	03/15/86	24572.7	S2B049	03/15/86	24977.5	S2C034	08/29/87	33712.0
S2B003	03/15/86	25799.8	S2B051	03/15/86	25032.3	S2C035	08/29/87	32641.5
S2B004	03/15/86	24578.6	S2B054	03/15/86	23693.9	S2C038	08/29/87	34401.0
S2B005	03/15/86	24466.4	S2B055	03/15/86	25772.3	S2C101	08/29/87	36852.8
S2B006	03/15/86	25768.1	S2B056	03/15/86	24576.7	S2C102	08/29/87	36896.8
S2B008	03/15/86	23804.3	S2B057	03/15/86	24900.7	S2C103	08/29/87	36841.3
S2B009	03/15/86	24584.3	S2B058	03/15/86	24264.7	S2C105	08/29/87	36880.2
S2B010	03/15/86	23587.0	S2B059	03/15/86	24259.7	S2C106	08/29/87	36762.8
S2B011	03/15/86	23602.0	S2B061	03/15/86	25080.4	S2C108	08/29/87	36779.0
S2B012	03/15/86	23851.9	S2B062	03/15/86	24374.1	S2C201	08/29/87	35462.0
S2B013	03/15/86	24524.2	S2B063	03/15/86	23563.9	S2C203	08/29/87	37960.9
S2B014	03/15/86	24578.0	S2B064	03/15/86	25772.2	S2C205	08/29/87	38327.3
S2B015	03/15/86	26057.4	S2B065	03/15/86	26169.6	S2C207	03/15/86	26230.8
S2B016	03/15/86	25016.4	S2B066	03/15/86	26687.3	S2C210	08/29/87	35899.8
S2B017	03/15/86	25624.1	S2B069	03/15/86	25286.2	S2C211	08/29/87	37968.2
S2B018	03/15/86	24990.6	S2B070	03/15/86	24341.0	S2C212	08/29/87	35757.4
S2B019	03/15/86	24389.5	S2B071	03/15/86	25945.6	S2D031	09/02/89	30178.9
S2B020	03/15/86	24890.1	S2B072	03/15/86	26154.4	S2D043	09/02/89	30670.1
S2B021	03/15/86	24534.1	S2B073	03/15/86	26057.5	S2D054	09/02/89	32587.9
S2B022	03/15/86	25693.3	S2B074	03/15/86	24708.2	S2D101	08/29/87	27189.6

S2D102	08/29/87	26906.1	S2F106	08/17/91	41343.1	S2G006	06/05/93	36453.0
S2D103	08/29/87	26770.5	S2F107	08/17/91	41243.3	S2G013	06/05/93	37092.0
S2D104	08/29/87	26547.7	S2F108	08/17/91	41411.4	S2G015	06/05/93	36455.0
S2D105	08/29/87	26757.9	S2F111	08/17/91	41268.7	S2G016	06/05/93	36467.0
S2D106	08/29/87	26558.7	S2F207	08/17/91	44350.1	S2G101	06/05/93	41794.0
S2D107	08/29/87	28354.9	S2F208	08/17/91	44394.6	S2G102	06/05/93	41651.0
S2D108	08/29/87	28568.5	S2F209	08/17/91	44531.1	S2G103	06/05/93	42176.0
S2D109	08/29/87	27233.2	S2F210	08/17/91	44579.5	S2G104	06/05/93	42084.0
S2D110	08/29/87	28470.0	S2F212	08/17/91	41629.3	S2G105	06/05/93	37516.0
S2D111	08/29/87	27212.6	S2F214	08/17/91	44373.9	S2G106	06/05/93	37439.0
S2D112	08/29/87	28238.1	S2F215	08/17/91	44560.0	S2G107	06/05/93	41981.0
S2D113	08/29/87	27228.6	S2F219	08/17/91	44596.8	S2G108	06/05/93	42066.0
S2D114	08/29/87	26989.4	S2F220	08/17/91	41307.8	S2G109	06/05/93	37265.0
S2D115	08/29/87	27125.3	S2F224	08/17/91	43450.6	S2G110	06/05/93	41889.0
S2D116	08/29/87	26980.1	S2F225	08/17/91	46326.1	S2G111	06/05/93	37682.0
S2E007	09/02/89	34728.5	S2F226	08/17/91	43289.7	S2G112	06/05/93	42468.0
S2E010	09/02/89	34967.4	S2F227	08/17/91	46840.9	S2G202	06/05/93	42866.0
S2E021	09/02/89	37341.0	S2F228	08/17/91	43412.0	S2G204	06/05/93	42014.0
S2E030	09/02/89	37473.5	S2F229	08/17/91	43582.5	S2G205	06/05/93	43597.0
S2E101	09/02/89	39215.7	S2F230	08/17/91	46796.8	S2G206	06/05/93	43742.0
S2E106	09/02/89	39226.4	S2F231	08/17/91	47238.6	S2G207	06/05/93	42566.0
S2E107	09/02/89	38929.9	S2F232	08/17/91	46710.4	S2G208	02/11/95	46950.0
S2E108	09/02/89	38912.2	S2F233	08/17/91	47053.7	S2G211	06/05/93	44138.0
S2E202	09/02/89	36755.5	S2F235	08/17/91	46874.9	S2G212	06/05/93	43902.0
S2E203	09/02/89	38807.6	S2F236	08/17/91	43584.7	S2G214	06/05/93	43616.0
S2E204	09/02/89	35024.7	S2F238	08/17/91	46137.3	S2G216	06/05/93	42157.0
S2E207	09/02/89	35102.9	S2F239	08/17/91	43439.5	S2G217	06/05/93	45733.0
S2E210	09/02/89	35487.7	S2F243	08/17/91	46235.6	S2G218	06/05/93	44414.0
S2E211	09/02/89	37079.9	S2F244	08/17/91	46080.5	S2G221	06/05/93	43925.0
S2E214	09/02/89	38819.4	S2F248	08/17/91	47186.9	S2G227	06/05/93	42342.0
S2E215	09/02/89	34506.0	S2F250	08/17/91	41903.7	S2G229	06/05/93	45654.0
S2E216	09/02/89	34455.3	S2F252	08/17/91	43513.6	S2G233	06/05/93	43106.0
S2E217	09/02/89	38890.3	S2F253	08/17/91	43236.1	S2G234	06/05/93	46813.0
S2E218	09/02/89	38535.8	S2F254	08/17/91	46866.6	S2G235	06/05/93	46561.0
S2E219	09/02/89	38712.5	S2F256	08/17/91	44656.6	S2G236	06/05/93	46531.0
S2E220	09/02/89	36794.2	S2F301	08/17/91	46373.9	S2G239	06/05/93	42777.0
S2E221	09/02/89	39047.2	S2F302	08/17/91	45622.7	S2G240	06/05/93	46331.0
S2E222	09/02/89	39319.6	S2F303	08/17/91	45770.4	S2G241	06/05/93	43428.0
S2E223	09/02/89	35056.1	S2F304	08/17/91	46042.2	S2G242	06/05/93	43985.0
S2E227	09/02/89	38793.1	S2F305	08/17/91	45301.7	S2G243	06/05/93	45985.0
S2E228	09/02/89	36735.3	S2F307	08/17/91	45207.9	S2G244	06/05/93	45504.0
S2E301	09/02/89	38869.1	S2F308	08/17/91	45338.6	S2G245	06/05/93	45396.0
S2E302	09/02/89	38767.1	S2F309	08/17/91	46228.0	S2G247	06/05/93	43289.0
S2E303	09/02/89	38568.3	S2F310	08/17/91	45680.5	S2G249	06/05/93	46465.0
S2E304	09/02/89	38412.7	S2F311	08/17/91	46489.0	S2G251	06/05/93	46715.0
S2E305	09/02/89	38769.7	S2F312	08/17/91	46408.9	S2G254	06/05/93	43471.0
S2E306	09/02/89	40024.2	S2F313	08/17/91	42404.6	S2G255	06/05/93	44222.0
S2E307	09/02/89	39023.9	S2F314	08/17/91	42050.8	S2G256	06/05/93	45257.0
S2E308	09/02/89	39187.4	S2F315	08/17/91	42392.2	S2G301	06/05/93	46292.0
S2E309	09/02/89	38845.5	S2F316	08/17/91	42276.1	S2G302	06/05/93	46102.0
S2E310	09/02/89	39871.9	S2F401	08/17/91	41351.4	S2G303	06/05/93	44703.0
S2E311	09/02/89	40091.1	S2F402	08/17/91	41094.7	S2G304	06/05/93	42656.0
S2E312	09/02/89	39918.9	S2F403	08/17/91	41348.4	S2G305	06/05/93	46134.0
S2F101	08/17/91	41332.7	S2F404	08/17/91	41391.1	S2G306	06/05/93	44824.0
S2F102	08/17/91	37115.2	S2F405	08/17/91	40923.3	S2G307	06/05/93	46636.0
S2F103	08/17/91	41056.5	S2F406	08/17/91	41302.8	S2G308	06/05/93	42743.0
S2F104	08/17/91	41236.8	S2F407	08/17/91	41276.5	S2G309	06/05/93	44813.0
S2F105	08/17/91	41539.6	S2F408	08/17/91	41242.7	S2G310	06/05/93	43197.0

S2G311	06/05/93	46116.0	S2H243	02/11/95	44904.0	S2J109	11/30/96	42866.0
S2G312	06/05/93	45961.0	S2H244	02/11/95	47208.0	S2J110	11/30/96	42241.0
S2G313	06/05/93	42564.0	S2H247	02/11/95	47489.0	S2J111	11/30/96	42715.0
S2G314	06/05/93	46131.0	S2H249	02/11/95	46864.0	S2J112	11/30/96	37849.0
S2G315	06/05/93	45133.0	S2H250	02/11/95	44081.0	S2J202	11/30/96	46511.0
S2G316	06/05/93	46112.0	S2H251	02/11/95	47160.0	S2J206	11/30/96	43382.0
S2G401	06/05/93	41615.0	S2H253	02/11/95	47212.0	S2J208	11/30/96	46419.0
S2G402	06/05/93	41574.0	S2H254	02/11/95	44514.0	S2J209	11/30/96	47688.0
S2G403	06/05/93	41189.0	S2H255	02/11/95	47122.0	S2J211	11/30/96	47546.0
S2G404	06/05/93	41341.0	S2H256	02/11/95	47033.0	S2J212	01/02/99	52422.0
S2G405	06/05/93	41961.0	S2H301	02/11/95	46938.0	S2J217	11/30/96	47412.0
S2G406	06/05/93	40943.0	S2H302	02/11/95	47058.0	S2J220	11/30/96	42879.0
S2G407	06/05/93	41094.0	S2H303	02/11/95	47093.0	S2J224	11/30/96	47288.0
S2G408	06/05/93	41379.0	S2H304	02/11/95	47661.0	S2J225	11/30/96	47525.0
S2H004	02/11/95	35285.0	S2H305	02/11/95	47346.0	S2J227	11/30/96	47523.0
S2H005	02/11/95	36679.0	S2H306	02/11/95	47550.0	S2J228	11/30/96	47320.0
S2H008	02/11/95	36649.0	S2H307	02/11/95	47618.0	S2J230	11/30/96	44775.0
S2H009	02/11/95	36955.0	S2H308	02/11/95	45815.0	S2J231	11/30/96	44811.0
S2H010	02/11/95	36577.0	S2H309	02/11/95	46943.0	S2J232	11/30/96	47670.0
S2H012	02/11/95	36911.0	S2H310	02/11/95	45817.0	S2J233	11/30/96	46409.0
S2H013	02/11/95	36511.0	S2H311	02/11/95	45553.0	S2J234	11/30/96	43234.0
S2H014	02/11/95	36774.0	S2H312	02/11/95	44172.0	S2J236	11/30/96	43108.0
S2H015	02/11/95	37010.0	S2H313	02/11/95	45830.0	S2J238	11/30/96	46424.0
S2H101	02/11/95	42106.0	S2H314	02/11/95	43753.0	S2J239	11/30/96	43840.0
S2H102	02/11/95	42015.0	S2H315	02/11/95	44125.0	S2J241	11/30/96	44488.0
S2H103	02/11/95	37822.0	S2H316	02/11/95	43619.0	S2J242	11/30/96	44023.0
S2H104	02/11/95	42407.0	S2H401	02/11/95	41578.0	S2J246	11/30/96	44850.0
S2H105	02/11/95	37751.0	S2H402	02/11/95	41523.0	S2J247	11/30/96	44567.0
S2H106	02/11/95	37434.0	S2H403	02/11/95	41576.0	S2J248	11/30/96	44399.0
S2H107	02/11/95	42151.0	S2H404	02/11/95	41793.0	S2J249	11/30/96	44052.0
S2H108	02/11/95	37886.0	S2H501	02/11/95	40044.0	S2J250	11/30/96	44590.0
S2H109	02/11/95	42149.0	S2H502	02/11/95	39861.0	S2J251	11/30/96	44662.0
S2H110	02/11/95	42299.0	S2H503	02/11/95	40178.0	S2J252	11/30/96	43830.0
S2H111	02/11/95	42034.0	S2H504	02/11/95	39936.0	S2J253	11/30/96	44149.0
S2H112	02/11/95	42127.0	S2J001	11/30/96	37517.0	S2J254	11/30/96	44131.0
S2H201	02/11/95	44586.0	S2J002	11/30/96	37511.0	S2J255	11/30/96	44136.0
S2H203	02/11/95	47153.0	S2J003	11/30/96	37651.0	S2J256	11/30/96	44407.0
S2H208	02/11/95	43150.0	S2J004	11/30/96	37397.0	S2J301	11/30/96	45837.0
S2H209	02/11/95	43323.0	S2J005	11/30/96	37454.0	S2J302	11/30/96	45839.0
S2H210	02/11/95	43329.0	S2J006	01/02/99	48289.0	S2J303	11/30/96	46307.0
S2H214	02/11/95	46502.0	S2J007	01/02/99	48290.0	S2J304	11/30/96	44229.0
S2H215	02/11/95	43029.0	S2J008	01/02/99	48068.0	S2J305	11/30/96	47910.0
S2H216	02/11/95	46675.0	S2J009	01/02/99	48012.0	S2J306	11/30/96	43812.0
S2H218	02/11/95	46401.0	S2J010	01/02/99	48291.0	S2J307	11/30/96	48108.0
S2H219	02/11/95	46375.0	S2J011	01/02/99	48372.0	S2J308	11/30/96	44158.0
S2H220	02/11/95	44005.0	S2J012	01/02/99	48250.0	S2J309	11/30/96	44095.0
S2H222	11/30/96	47812.0	S2J013	11/30/96	37816.0	S2J310	11/30/96	47572.0
S2H223	02/11/95	44528.0	S2J014	01/02/99	48611.0	S2J311	11/30/96	48055.0
S2H224	02/11/95	44065.0	S2J015	11/30/96	37411.0	S2J312	11/30/96	47691.0
S2H225	02/11/95	44686.0	S2J016	11/30/96	37592.0	S2J313	11/30/96	47941.0
S2H226	02/11/95	44207.0	S2J101	11/30/96	37730.0	S2J314	11/30/96	47922.0
S2H227	02/11/95	44255.0	S2J102	11/30/96	42274.0	S2J315	11/30/96	47960.0
S2H228	02/11/95	43979.0	S2J103	11/30/96	42154.0	S2J316	11/30/96	46275.0
S2H229	02/11/95	44728.0	S2J104	11/30/96	42360.0	S2J401	11/30/96	42069.0
S2H231	02/11/95	43953.0	S2J105	11/30/96	42240.0	S2J404	11/30/96	42293.0
S2H232	02/11/95	44701.0	S2J106	11/30/96	37679.0	S2J406	11/30/96	41325.0
S2H233	02/11/95	44748.0	S2J107	11/30/96	37708.0	S2J407	11/30/96	42069.0
S2H234	02/11/95	43701.0	S2J108	11/30/96	42275.0	S2K001	01/02/99	39738.0

S2K002	10/07/00	48059.0	S2K244	01/02/99	45606.0	S2L401	10/07/00	49387.0
S2K003	10/07/00	47799.0	S2K245	01/02/99	45457.0	S2L402	10/07/00	45765.0
S2K004	10/07/00	48405.0	S2K246	01/02/99	47753.0	S2L404	10/07/00	49300.0
S2K005	01/02/99	39629.0	S2K247	01/02/99	49079.0	S2L405	10/07/00	48280.0
S2K006	10/07/00	48232.0	S2K248	01/02/99	48958.0	S2L406	10/07/00	47231.0
S2K007	01/02/99	39827.0	S2K249	01/02/99	49015.0	S2L407	10/07/00	46426.0
S2K008	10/07/00	48387.0	S2K250	01/02/99	45650.0	S2L408	10/07/00	49295.0
S2K011	10/07/00	48359.0	S2K251	01/02/99	48687.0	S2L409	10/07/00	49001.0
S2K012	01/02/99	39766.0	S2K252	01/02/99	48889.0	S2L410	10/07/00	48706.0
S2K013	10/07/00	48493.0	S2K253	01/02/99	47606.0	S2L411	10/07/00	49180.0
S2K016	10/07/00	48280.0	S2K254	01/02/99	48335.0	S2L412	10/07/00	49297.0
S2K102	01/02/99	42338.0	S2K255	01/02/99	46016.0	S2L413	10/07/00	48507.0
S2K104	01/02/99	39744.0	S2K256	01/02/99	45606.0	S2L414	10/07/00	49246.0
S2K110	01/02/99	42326.0	S2K307	01/02/99	39674.0	S2L415	10/07/00	49085.0
S2K112	01/02/99	42225.0	S2K308	01/02/99	39852.0	S2L416	05/20/02	51911.0
S2K201	01/02/99	44678.0	S2K309	01/02/99	47459.0	S2L417	10/07/00	49316.0
S2K202	10/07/00	40821.0	S2K312	01/02/99	39843.0	S2L418	10/07/00	48595.0
S2K203	01/02/99	47357.0	S2K313	01/02/99	46933.0	S2L419	05/20/02	52388.0
S2K204	01/02/99	46176.0	S2K314	01/02/99	47000.0	S2L420	10/07/00	47750.0
S2K205	10/07/00	41431.0	S2K315	01/02/99	39783.0	S2L421	05/20/02	52724.0
S2K206	01/02/99	48877.0	S2K316	01/02/99	47516.0	S2L422	10/07/00	47362.0
S2K207	01/02/99	46459.0	S2K401	10/07/00	51043.0	S2L423	10/07/00	48160.0
S2K208	01/02/99	48163.0	S2L006	05/20/02	49923.0	S2L424	10/07/00	47079.0
S2K209	01/02/99	47078.0	S2L007	05/20/02	50134.0	S2L425	05/20/02	52483.0
S2K210	01/02/99	48857.0	S2L008	05/20/02	50339.0	S2L426	10/07/00	47415.0
S2K211	01/02/99	47417.0	S2L015	05/20/02	50280.0	S2L427	10/07/00	47952.0
S2K212	10/07/00	41503.0	S2L201	10/07/00	47760.0	S2L429	10/07/00	48923.0
S2K213	01/02/99	48848.0	S2L202	10/07/00	48230.0	S2L430	05/20/02	51541.0
S2K214	01/02/99	49312.0	S2L203	10/07/00	47718.0	S2L432	10/07/00	49151.0
S2K215	10/07/00	41533.0	S2L204	10/07/00	47989.0	S2L433	10/07/00	47748.0
S2K216	01/02/99	46572.0	S2L205	10/07/00	47951.0	S2L434	10/07/00	49039.0
S2K217	01/02/99	46824.0	S2L206	10/07/00	47854.0	S2L435	10/07/00	48805.0
S2K218	01/02/99	46217.0	S2L207	10/07/00	49663.0	S2L436	10/07/00	48785.0
S2K219	01/02/99	46059.0	S2L208	10/07/00	49429.0	S2M001	05/20/02	42639.0
S2K220	01/02/99	46026.0	S2L209	10/07/00	49675.0	S2M002	05/20/02	42082.0
S2K221	10/07/00	40833.0	S2L210	10/07/00	49847.0	S2M003	02/09/04	43978.0
S2K222	01/02/99	49035.0	S2L211	10/07/00	48339.0	S2M004	05/20/02	42131.0
S2K223	01/02/99	48825.0	S2L212	10/07/00	48569.0	S2M005	02/09/04	44231.0
S2K224	01/02/99	45692.0	S2L301	10/07/00	49037.0	S2M006	05/20/02	42266.0
S2K225	10/07/00	40524.0	S2L302	10/07/00	45982.0	S2M007	02/09/04	44122.0
S2K226	01/02/99	46429.0	S2L303	10/07/00	46275.0	S2M008	02/09/04	44167.0
S2K227	01/02/99	48477.0	S2L304	10/07/00	46181.0	S2M009	05/20/02	42292.0
S2K228	01/02/99	49236.0	S2L305	10/07/00	45750.0	S2M010	02/09/04	43953.0
S2K229	10/07/00	41289.0	S2L306	10/07/00	48958.0	S2M011	05/20/02	42778.0
S2K230	01/02/99	48704.0	S2L307	10/07/00	46150.0	S2M012	05/20/02	42170.0
S2K231	10/07/00	40497.0	S2L308	10/07/00	45993.0	S2M013	05/20/02	42408.0
S2K232	01/02/99	46512.0	S2L309	10/07/00	47288.0	S2M014	02/09/04	43879.0
S2K233	01/02/99	46960.0	S2L310	10/07/00	47207.0	S2M015	02/09/04	44042.0
S2K234	01/02/99	47572.0	S2L311	10/07/00	49172.0	S2M016	02/09/04	44027.0
S2K235	01/02/99	49611.0	S2L312	10/07/00	45962.0	S2M201	05/20/02	41638.0
S2K236	01/02/99	48623.0	S2L313	10/07/00	49255.0	S2M202	05/20/02	41951.0
S2K237	01/02/99	45882.0	S2L314	10/07/00	49074.0	S2M203	05/20/02	41634.0
S2K238	01/02/99	49104.0	S2L315	10/07/00	49220.0	S2M204	05/20/02	41594.0
S2K239	01/02/99	49130.0	S2L316	10/07/00	47327.0	S2M205	05/20/02	42233.0
S2K240	01/02/99	49322.0	S2L317	10/07/00	49183.0	S2M206	05/20/02	41666.0
S2K241	01/02/99	48893.0	S2L318	10/07/00	47261.0	S2M207	05/20/02	41668.0
S2K242	01/02/99	46071.0	S2L319	10/07/00	48923.0	S2M208	05/20/02	41684.0
S2K243	01/02/99	45205.0	S2L320	10/07/00	45795.0	S2M301	05/20/02	46314.0

S2M302	05/20/02	46321.0	S2M553	05/20/02	45257.0	S2N505	02/09/04	46601.0
S2M303	05/20/02	46281.0	S2M554	05/20/02	45470.0	S2N506	02/09/04	45845.0
S2M304	02/09/04	51934.0	S2M556	05/20/02	42015.0	S2N507	02/09/04	45795.0
S2M305	02/09/04	51863.0	S2M557	05/20/02	45103.0	S2N508	02/09/04	47163.0
S2M306	02/09/04	51806.0	S2M558	05/20/02	45262.0	S2N509	02/09/04	47195.0
S2M307	05/20/02	46312.0	S2M560	05/20/02	47387.0	S2N510	02/09/04	45728.0
S2M311	02/09/04	52323.0	S2N002	02/09/04	42202.0	S2N511	02/09/04	46086.0
S2M312	02/09/04	49609.0	S2N004	02/09/04	41969.0	S2N512	02/09/04	46778.0
S2M313	05/20/02	46375.0	S2N005	02/09/04	41936.0	S2N513	02/09/04	47282.0
S2M314	05/20/02	46241.0	S2N006	02/09/04	42122.0	S2N514	02/09/04	47326.0
S2M315	05/20/02	46295.0	S2N007	02/09/04	35996.0	S2N515	02/09/04	47136.0
S2M316	05/20/02	46473.0	S2N008	01/03/06	46782.0	S2N516	02/09/04	47222.0
S2M501	05/20/02	47326.0	S2N009	01/03/06	47226.0	S2N517	02/09/04	46267.0
S2M504	05/20/02	42121.0	S2N010	01/03/06	46577.0	S2N518	02/09/04	45103.0
S2M505	05/20/02	46784.0	S2N011	01/03/06	47367.0	S2N519	02/09/04	47095.0
S2M506	05/20/02	47339.0	S2N012	01/03/06	46890.0	S2N520	02/09/04	47067.0
S2M507	05/20/02	45409.0	S2N013	01/03/06	46909.0	S2N521	02/09/04	47278.0
S2M508	05/20/02	45420.0	S2N014	01/03/06	47193.0	S2N522	02/09/04	47192.0
S2M509	05/20/02	45503.0	S2N015	02/09/04	36097.0	S2N523	02/09/04	47275.0
S2M510	02/09/04	41815.0	S2N016	01/03/06	47422.0	S2N524	02/09/04	45744.0
S2M512	02/09/04	42103.0	S2N201	02/09/04	41459.0	S2N525	02/09/04	47048.0
S2M513	05/20/02	47145.0	S2N202	02/09/04	46444.0	S2N526	02/09/04	45408.0
S2M514	05/20/02	47320.0	S2N203	02/09/04	46154.0	S2N527	02/09/04	46191.0
S2M515	02/09/04	42399.0	S2N204	02/09/04	41022.0	S2N528	02/09/04	46049.0
S2M516	02/09/04	42232.0	S2N205	02/09/04	46281.0	S2N529	02/09/04	46128.0
S2M517	05/20/02	47167.0	S2N206	02/09/04	41092.0	S2N530	02/09/04	45534.0
S2M519	05/20/02	47204.0	S2N207	02/09/04	40896.0	S2N531	02/09/04	45509.0
S2M520	05/20/02	46764.0	S2N208	02/09/04	46203.0	S2N532	02/09/04	46157.0
S2M521	05/20/02	46809.0	S2N209	02/09/04	46141.0	S2N533	02/09/04	46177.0
S2M522	05/20/02	46754.0	S2N210	02/09/04	46164.0	S2N534	02/09/04	46160.0
S2M523	05/20/02	45275.0	S2N211	02/09/04	46048.0	S2N535	02/09/04	45750.0
S2M524	05/20/02	42051.0	S2N212	02/09/04	46025.0	S2N536	02/09/04	46385.0
S2M525	02/09/04	42247.0	S2N213	02/09/04	40809.0	S2P001	01/03/06	38894.0
S2M526	05/20/02	46595.0	S2N214	02/09/04	41604.0	S2P002	01/03/06	39001.0
S2M527	05/20/02	41878.0	S2N215	02/09/04	41759.0	S2P003	11/26/07	39977.0
S2M528	05/20/02	45476.0	S2N216	02/09/04	40569.0	S2P004	01/03/06	39050.0
S2M529	05/20/02	45009.0	S2N301	02/09/04	34742.0	S2P005	01/03/06	39294.0
S2M531	02/09/04	42447.0	S2N305	02/09/04	34404.0	S2P006	11/26/07	39880.0
S2M532	05/20/02	46682.0	S2N306	01/03/06	54740.0	S2P007	01/03/06	39167.0
S2M533	05/20/02	45252.0	S2N307	11/26/07	50686.0	S2P008	11/26/07	40113.0
S2M534	05/20/02	45432.0	S2N308	01/03/06	54336.0	S2P009	11/26/07	40056.0
S2M535	05/20/02	46892.0	S2N309	02/09/04	34482.0	S2P010	01/03/06	38960.0
S2M536	05/20/02	46864.0	S2N310	01/03/06	54522.0	S2P011	01/03/06	39325.0
S2M537	05/20/02	46812.0	S2N312	01/03/06	52260.0	S2P012	01/03/06	39411.0
S2M538	05/20/02	46954.0	S2N313	01/03/06	54613.0	S2P013	11/26/07	39788.0
S2M539	05/20/02	47219.0	S2N315	02/09/04	34582.0	S2P014	11/26/07	39856.0
S2M540	05/20/02	47310.0	S2N401	02/09/04	44829.0	S2P015	11/26/07	39814.0
S2M541	05/20/02	45378.0	S2N402	02/09/04	45845.0	S2P016	11/26/07	40168.0
S2M542	05/20/02	46765.0	S2N403	02/09/04	45855.0	S2P201	01/03/06	42774.0
S2M544	05/20/02	46767.0	S2N404	02/09/04	45765.0	S2P202	01/03/06	43068.0
S2M545	05/20/02	47103.0	S2N405	02/09/04	44850.0	S2P203	01/03/06	43499.0
S2M546	05/20/02	45677.0	S2N406	02/09/04	46129.0	S2P204	01/03/06	43416.0
S2M547	05/20/02	46752.0	S2N407	02/09/04	45131.0	S2P205	01/03/06	42932.0
S2M548	05/20/02	47425.0	S2N408	02/09/04	45069.0	S2P206	01/03/06	43069.0
S2M549	02/09/04	41880.0	S2N501	02/09/04	47235.0	S2P207	01/03/06	43774.0
S2M550	02/09/04	41788.0	S2N502	02/09/04	47182.0	S2P208	01/03/06	42791.0
S2M551	05/20/02	44912.0	S2N503	02/09/04	47146.0	S2P401	11/26/07	43095.0
S2M552	05/20/02	45248.0	S2N504	02/09/04	46963.0	S2P402	01/03/06	49018.0

S2P403	01/03/06	40438.0	S2P525	01/03/06	48389.0	S2Q415	11/26/07	48453.0
S2P404	01/03/06	49656.0	S2P526	01/03/06	48262.0	S2Q416	11/26/07	48336.0
S2P405	01/03/06	49327.0	S2P527	01/03/06	49213.0	S2Q417	11/26/07	48468.0
S2P406	01/03/06	48015.0	S2P528	01/03/06	35785.0	S2Q418	11/26/07	48562.0
S2P407	01/03/06	47954.0	S2P529	01/03/06	49077.0	S2Q419	11/26/07	48477.0
S2P408	01/03/06	49710.0	S2P530	01/03/06	36003.0	S2Q420	11/26/07	48536.0
S2P409	01/03/06	46600.0	S2P531	01/03/06	49124.0	S2Q501	11/26/07	48601.0
S2P410	01/03/06	49276.0	S2P532	01/03/06	36226.0	S2Q502	11/26/07	46643.0
S2P411	11/26/07	43136.0	S2P533	01/03/06	49128.0	S2Q503	11/26/07	48549.0
S2P412	01/03/06	46432.0	S2P534	01/03/06	49464.0	S2Q504	11/26/07	46701.0
S2P413	01/03/06	49801.0	S2P535	01/03/06	49207.0	S2Q505	11/26/07	46796.0
S2P414	01/03/06	40341.0	S2P536	01/03/06	36391.0	S2Q506	11/26/07	46508.0
S2P415	01/03/06	49198.0	S2P537	01/03/06	49301.0	S2Q507	11/26/07	48424.0
S2P416	11/26/07	42893.0	S2P538	01/03/06	36173.0	S2Q508	11/26/07	48410.0
S2P417	11/26/07	43000.0	S2P539	01/03/06	35991.0	S2Q509	11/26/07	48449.0
S2P418	01/03/06	40586.0	S2P540	01/03/06	49211.0	S2Q510	11/26/07	46696.0
S2P419	01/03/06	49032.0	S2P541	01/03/06	49370.0	S2Q511	11/26/07	48491.0
S2P420	01/03/06	49097.0	S2P542	01/03/06	46694.0	S2Q512	11/26/07	47238.0
S2P421	11/26/07	42831.0	S2P543	01/03/06	36030.0	S2Q513	11/26/07	46681.0
S2P422	11/26/07	42572.0	S2P544	01/03/06	49229.0	S2Q514	11/26/07	48356.0
S2P423	01/03/06	48859.0	S2Q001	11/26/07	33348.0	S2Q515	11/26/07	47138.0
S2P424	11/26/07	42792.0	S2Q002	09/27/09	50258.0	S2Q516	11/26/07	48616.0
S2P425	01/03/06	46488.0	S2Q003	09/27/09	50552.0	S2Q517	11/26/07	44779.0
S2P426	01/03/06	49129.0	S2Q004	11/26/07	35107.0	S2Q518	11/26/07	44652.0
S2P427	01/03/06	49328.0	S2Q005	11/26/07	35164.0	S2Q519	11/26/07	47271.0
S2P428	01/03/06	40501.0	S2Q006	09/27/09	48623.0	S2Q520	11/26/07	44748.0
S2P429	01/03/06	49791.0	S2Q007	11/26/07	35165.0	S2Q521	11/26/07	36458.0
S2P430	01/03/06	47804.0	S2Q008	09/27/09	49994.0	S2Q522	11/26/07	48517.0
S2P431	01/03/06	49828.0	S2Q009	11/26/07	35115.0	S2Q523	11/26/07	36117.0
S2P432	01/03/06	49601.0	S2Q010	11/26/07	38553.0	S2Q524	11/26/07	36145.0
S2P433	11/26/07	42584.0	S2Q011	11/26/07	33321.0	S2Q525	11/26/07	46598.0
S2P434	01/03/06	49326.0	S2Q012	11/26/07	33521.0	S2Q526	11/26/07	48580.0
S2P435	01/03/06	46501.0	S2Q013	11/26/07	38507.0	S2Q527	11/26/07	48255.0
S2P436	01/03/06	47935.0	S2Q014	11/26/07	38702.0	S2Q528	11/26/07	46628.0
S2P501	01/03/06	46903.0	S2Q015	09/27/09	50336.0	S2Q529	11/26/07	48506.0
S2P502	01/03/06	48333.0	S2Q016	11/26/07	38479.0	S2Q530	11/26/07	48605.0
S2P503	01/03/06	48320.0	S2Q101	11/26/07	40656.0	S2Q531	11/26/07	46663.0
S2P504	01/03/06	46991.0	S2Q102	11/26/07	41126.0	S2Q532	11/26/07	36355.0
S2P505	01/03/06	48240.0	S2Q103	11/26/07	40972.0	S2Q533	11/26/07	48579.0
S2P506	01/03/06	48618.0	S2Q104	11/26/07	41004.0	S2Q534	11/26/07	46838.0
S2P507	01/03/06	49067.0	S2Q105	11/26/07	41163.0	S2Q535	11/26/07	44679.0
S2P508	01/03/06	48525.0	S2Q106	11/26/07	41202.0	S2Q536	11/26/07	46822.0
S2P509	01/03/06	46404.0	S2Q107	11/26/07	41081.0	S2Q537	11/26/07	36368.0
S2P510	01/03/06	47063.0	S2Q108	11/26/07	40832.0	S2Q538	11/26/07	48516.0
S2P511	01/03/06	48333.0	S2Q401	09/27/09	49634.0	S2Q539	11/26/07	36637.0
S2P512	01/03/06	36338.0	S2Q402	09/27/09	50117.0	S2Q540	11/26/07	46896.0
S2P513	01/03/06	49186.0	S2Q403	11/26/07	48387.0	S2Q541	11/26/07	48599.0
S2P514	01/03/06	48374.0	S2Q404	09/27/09	49353.0	S2Q542	11/26/07	46817.0
S2P515	01/03/06	46612.0	S2Q405	11/26/07	48424.0	S2Q543	11/26/07	48634.0
S2P516	01/03/06	48713.0	S2Q406	11/26/07	48370.0	S2Q544	11/26/07	46656.0
S2P517	01/03/06	48772.0	S2Q407	09/27/09	49323.0	S2Q545	11/26/07	48259.0
S2P518	01/03/06	49154.0	S2Q408	09/27/09	50065.0	S2Q546	11/26/07	48678.0
S2P519	01/03/06	46635.0	S2Q409	09/27/09	50188.0	S2Q547	11/26/07	36208.0
S2P520	01/03/06	49078.0	S2Q410	11/26/07	48287.0	S2Q548	11/26/07	36226.0
S2P521	01/03/06	48718.0	S2Q411	09/27/09	49554.0	S2Q549	11/26/07	46683.0
S2P522	01/03/06	49154.0	S2Q412	09/27/09	50257.0	S2Q550	11/26/07	47210.0
S2P523	01/03/06	47120.0	S2Q413	11/26/07	48390.0	S2Q551	11/26/07	48649.0
S2P524	01/03/06	49209.0	S2Q414	11/26/07	48300.0	S2Q552	11/26/07	48666.0

S2Q553	11/26/07	48570.0	S2R519	09/27/09	46072.0	S2S105	01/09/12	43706.0
S2Q554	11/26/07	48618.0	S2R520	09/27/09	33926.0	S2S106	01/09/12	43359.0
S2Q555	11/26/07	46821.0	S2R521	09/27/09	45255.0	S2S107	01/09/12	43709.0
S2Q556	11/26/07	48610.0	S2R522	09/27/09	33841.0	S2S108	01/09/12	43598.0
S2R001	09/27/09	35477.0	S2R523	09/27/09	46621.0	S2S301	01/09/12	44921.0
S2R002	09/27/09	35374.0	S2R524	09/27/09	46777.0	S2S302	01/09/12	44480.0
S2R003	09/27/09	35457.0	S2R525	09/27/09	46745.0	S2S303	01/09/12	44821.0
S2R004	09/27/09	35397.0	S2R526	09/27/09	34798.0	S2S304	01/09/12	44850.0
S2R005	09/27/09	35320.0	S2R527	09/27/09	42668.0	S2S305	01/09/12	44941.0
S2R006	09/27/09	35356.0	S2R528	09/27/09	46903.0	S2S306	01/09/12	44798.0
S2R007	01/09/12	49968.0	S2R529	09/27/09	46074.0	S2S307	01/09/12	45017.0
S2R008	09/27/09	35630.0	S2R530	09/27/09	45804.0	S2S308	01/09/12	45486.0
S2R009	09/27/09	35316.0	S2R531	09/27/09	34821.0	S2S401	01/09/12	46395.0
S2R010	09/27/09	32027.0	S2R532	09/27/09	46531.0	S2S402	01/09/12	46500.0
S2R011	01/09/12	50148.0	S2R533	09/27/09	33772.0	S2S403	01/09/12	46248.0
S2R012	01/09/12	49088.0	S2R534	09/27/09	46034.0	S2S404	01/09/12	46309.0
S2R013	01/09/12	50265.0	S2R535	09/27/09	42681.0	S2S405	01/09/12	44576.0
S2R014	09/27/09	32094.0	S2R536	09/27/09	42550.0	S2S406	01/09/12	44728.0
S2R015	01/09/12	50165.0	S2R537	09/27/09	34784.0	S2S407	01/09/12	46267.0
S2R016	09/27/09	31939.0	S2R538	09/27/09	34582.0	S2S408	01/09/12	46184.0
S2R101	09/27/09	41247.0	S2R539	09/27/09	44481.0	S2S409	01/09/12	44735.0
S2R102	09/27/09	40911.0	S2R540	09/27/09	44283.0	S2S410	01/09/12	45253.0
S2R103	09/27/09	41097.0	S2R541	09/27/09	34925.0	S2S411	01/09/12	44491.0
S2R104	09/27/09	41143.0	S2R542	09/27/09	46147.0	S2S412	01/09/12	44601.0
S2R105	09/27/09	41922.0	S2R543	09/27/09	42784.0	S2S413	01/09/12	45177.0
S2R106	09/27/09	41703.0	S2R544	09/27/09	34692.0	S2S414	01/09/12	46149.0
S2R107	09/27/09	41490.0	S2R545	09/27/09	45952.0	S2S415	01/09/12	44594.0
S2R108	09/27/09	41835.0	S2R546	09/27/09	39249.0	S2S416	01/09/12	46420.0
S2R401	09/27/09	46155.0	S2R547	09/27/09	46164.0	S2S501	01/09/12	48529.0
S2R402	09/27/09	46072.0	S2R548	09/27/09	46856.0	S2S502	01/09/12	48631.0
S2R403	09/27/09	46259.0	S2R549	09/27/09	44449.0	S2S503	01/09/12	48656.0
S2R404	09/27/09	45886.0	S2R550	09/27/09	45987.0	S2S504	01/09/12	47171.0
S2R405	09/27/09	46201.0	S2R551	09/27/09	45933.0	S2S505	01/09/12	33818.0
S2R406	09/27/09	46138.0	S2R552	09/27/09	46177.0	S2S506	01/09/12	35674.0
S2R407	09/27/09	46305.0	S2R553	09/27/09	46802.0	S2S507	01/09/12	38082.0
S2R408	09/27/09	45968.0	S2R554	09/27/09	33652.0	S2S508	01/09/12	34211.0
S2R409	09/27/09	46245.0	S2R555	09/27/09	33947.0	S2S509	01/09/12	34492.0
S2R410	09/27/09	46310.0	S2R556	09/27/09	46757.0	S2S510	01/09/12	47285.0
S2R411	09/27/09	46174.0	S2R557	09/27/09	39164.0	S2S511	01/09/12	34091.0
S2R412	09/27/09	46215.0	S2R558	09/27/09	45281.0	S2S512	01/09/12	47256.0
S2R501	09/27/09	45947.0	S2R559	09/27/09	39344.0	S2S513	01/09/12	35049.0
S2R502	09/27/09	46146.0	S2R560	09/27/09	39287.0	S2S514	01/09/12	48391.0
S2R503	09/27/09	34697.0	S2R561	09/27/09	42637.0	S2S515	01/09/12	48709.0
S2R504	09/27/09	45941.0	S2R562	09/27/09	46443.0	S2S516	01/09/12	35616.0
S2R505	09/27/09	34674.0	S2R563	09/27/09	33783.0	S2S517	01/09/12	49093.0
S2R506	09/27/09	42614.0	S2R564	09/27/09	33856.0	S2S518	01/09/12	48711.0
S2R507	09/27/09	45998.0	S2S001	01/09/12	40862.0	S2S519	01/09/12	33643.0
S2R508	09/27/09	46087.0	S2S002	01/09/12	41401.0	S2S520	01/09/12	34331.0
S2R509	09/27/09	46759.0	S2S003	01/09/12	41253.0	S2S521	01/09/12	47016.0
S2R510	09/27/09	46865.0	S2S004	01/09/12	41223.0	S2S522	01/09/12	33494.0
S2R511	09/27/09	46572.0	S2S005	01/09/12	41044.0	S2S523	01/09/12	33742.0
S2R512	09/27/09	33671.0	S2S006	01/09/12	41150.0	S2S524	01/09/12	33533.0
S2R513	09/27/09	42540.0	S2S007	01/09/12	41035.0	S2S525	01/09/12	34418.0
S2R514	09/27/09	44322.0	S2S008	01/09/12	41018.0	S2S526	01/09/12	37993.0
S2R515	09/27/09	45986.0	S2S101	01/09/12	43763.0	S2S527	01/09/12	48791.0
S2R516	09/27/09	45213.0	S2S102	01/09/12	42751.0	S2S528	01/09/12	48164.0
S2R517	09/27/09	42604.0	S2S103	01/09/12	43203.0	S2S529	01/09/12	35659.0
S2R518	09/27/09	45368.0	S2S104	01/09/12	43224.0	S2S530	01/09/12	34767.0

S2S531	01/09/12	35112.0	S2T317	01/09/12	21635.0	S2T543	01/09/12	28976.0
S2S532	01/09/12	48632.0	S2T318	01/09/12	21602.0	S2T544	01/09/12	26637.0
S2S533	01/09/12	48792.0	S2T319	01/09/12	20948.0	S2T545	01/09/12	28995.0
S2S534	01/09/12	48788.0	S2T320	01/09/12	21007.0	S2T546	01/09/12	26592.0
S2S535	01/09/12	46966.0	S2T321	01/09/12	21682.0	S2T547	01/09/12	29093.0
S2S536	01/09/12	47016.0	S2T322	01/09/12	20863.0	S2T548	01/09/12	28129.0
S2S537	01/09/12	47339.0	S2T323	01/09/12	21575.0	S2T549	01/09/12	29178.0
S2S538	01/09/12	35130.0	S2T324	01/09/12	20834.0	S2T550	01/09/12	28513.0
S2S539	01/09/12	33467.0	S2T401	01/09/12	25985.0	S2T551	01/09/12	28401.0
S2S540	01/09/12	38199.0	S2T402	01/09/12	26236.0	S2T552	01/09/12	29383.0
S2S541	01/09/12	37634.0	S2T403	01/09/12	26317.0	S2T553	01/09/12	29262.0
S2S542	01/09/12	38265.0	S2T404	01/09/12	26531.0	S2T554	01/09/12	29150.0
S2S543	01/09/12	33743.0	S2T405	01/09/12	26126.0	S2T555	01/09/12	28396.0
S2S544	01/09/12	38461.0	S2T406	01/09/12	26386.0	S2T556	01/09/12	28092.0
S2S545	01/09/12	38112.0	S2T407	01/09/12	26214.0	S2T557	01/09/12	28308.0
S2S546	01/09/12	48889.0	S2T408	01/09/12	26434.0	S2T558	01/09/12	26921.0
S2S547	01/09/12	47147.0	S2T501	01/09/12	28776.0	S2T559	01/09/12	26891.0
S2S548	01/09/12	48236.0	S2T502	01/09/12	28688.0	S2T560	01/09/12	27561.0
S2S549	01/09/12	48695.0	S2T503	01/09/12	28694.0	S2TA01	01/09/12	16801.0
S2S550	01/09/12	47137.0	S2T504	01/09/12	28770.0	S2TA02	01/09/12	17214.0
S2S551	01/09/12	46802.0	S2T505	01/09/12	26615.0	S2TA03	01/09/12	17202.0
S2S552	01/09/12	33629.0	S2T506	01/09/12	26478.0	S2TA04	01/09/12	16817.0
S2S553	01/09/12	35622.0	S2T507	01/09/12	28790.0	S2TA05	01/09/12	24821.0
S2S554	01/09/12	48515.0	S2T508	01/09/12	28604.0	S2TA06	01/09/12	24784.0
S2S555	01/09/12	33685.0	S2T509	01/09/12	28660.0	S2TA07	01/09/12	24816.0
S2S556	01/09/12	33857.0	S2T510	01/09/12	28131.0	S2TA08	01/09/12	24780.0
S2S557	01/09/12	47021.0	S2T511	01/09/12	28899.0	S2U101	01/09/12	0.0
S2S558	01/09/12	49288.0	S2T512	01/09/12	28200.0	S2U102	01/09/12	0.0
S2S559	01/09/12	46807.0	S2T513	01/09/12	26570.0	S2U103	01/09/12	0.0
S2S560	01/09/12	49195.0	S2T514	01/09/12	28657.0	S2U104	01/09/12	0.0
S2S561	01/09/12	34030.0	S2T515	01/09/12	28862.0	S2U105	01/09/12	0.0
S2S562	01/09/12	49023.0	S2T516	01/09/12	27925.0	S2U106	01/09/12	0.0
S2S563	01/09/12	37881.0	S2T517	01/09/12	28039.0	S2U107	01/09/12	0.0
S2S564	01/09/12	49277.0	S2T518	01/09/12	28343.0	S2U108	01/09/12	0.0
S2T001	01/09/12	17166.0	S2T519	01/09/12	28285.0	S2U301	01/09/12	0.0
S2T002	01/09/12	17238.0	S2T520	01/09/12	27966.0	S2U302	01/09/12	0.0
S2T003	01/09/12	16846.0	S2T521	01/09/12	28973.0	S2U303	01/09/12	0.0
S2T004	01/09/12	16689.0	S2T522	01/09/12	27414.0	S2U304	01/09/12	0.0
S2T201	01/09/12	22983.0	S2T523	01/09/12	28289.0	S2U305	01/09/12	0.0
S2T202	01/09/12	23105.0	S2T524	01/09/12	28385.0	S2U306	01/09/12	0.0
S2T203	01/09/12	23013.0	S2T525	01/09/12	28317.0	S2U307	01/09/12	0.0
S2T204	01/09/12	23001.0	S2T526	01/09/12	28847.0	S2U308	01/09/12	0.0
S2T301	01/09/12	21800.0	S2T527	01/09/12	26549.0	S2U309	01/09/12	0.0
S2T302	01/09/12	21884.0	S2T528	01/09/12	28402.0	S2U310	01/09/12	0.0
S2T303	01/09/12	21977.0	S2T529	01/09/12	29111.0	S2U311	01/09/12	0.0
S2T304	01/09/12	21849.0	S2T530	01/09/12	28200.0	S2U312	01/09/12	0.0
S2T305	01/09/12	21771.0	S2T531	01/09/12	26585.0	S2U313	01/09/12	0.0
S2T306	01/09/12	24432.0	S2T532	01/09/12	26687.0	S2U314	01/09/12	0.0
S2T307	01/09/12	22090.0	S2T533	01/09/12	28322.0	S2U315	01/09/12	0.0
S2T308	01/09/12	24769.0	S2T534	01/09/12	28235.0	S2U316	01/09/12	0.0
S2T309	01/09/12	24869.0	S2T535	01/09/12	28227.0	S2U401	01/09/12	0.0
S2T310	01/09/12	20600.0	S2T536	01/09/12	26952.0	S2U402	01/09/12	0.0
S2T311	01/09/12	24791.0	S2T537	01/09/12	28602.0	S2U403	01/09/12	0.0
S2T312	01/09/12	24778.0	S2T538	01/09/12	27401.0	S2U404	01/09/12	0.0
S2T313	01/09/12	21717.0	S2T539	01/09/12	26961.0	S2U405	01/09/12	0.0
S2T314	01/09/12	24854.0	S2T540	01/09/12	27289.0	S2U406	01/09/12	0.0
S2T315	01/09/12	24973.0	S2T541	01/09/12	28369.0	S2U407	01/09/12	0.0
S2T316	01/09/12	24951.0	S2T542	01/09/12	28323.0	S2U408	01/09/12	0.0

S2U501	01/09/12	0.0	S2U559	01/09/12	0.0
S2U502	01/09/12	0.0	S2U560	01/09/12	0.0
S2U503	01/09/12	0.0	S2UA01	01/09/12	0.0
S2U504	01/09/12	0.0	S2UA02	01/09/12	0.0
S2U505	01/09/12	0.0	S2UA03	01/09/12	0.0
S2U506	01/09/12	0.0	S2UA04	01/09/12	0.0
S2U507	01/09/12	0.0	S2UA05	01/09/12	0.0
S2U508	01/09/12	0.0	S2UA06	01/09/12	0.0
S2U509	01/09/12	0.0	S2UA07	01/09/12	0.0
S2U510	01/09/12	0.0	S2UA08	01/09/12	0.0
S2U511	01/09/12	0.0	S2UW01	01/09/12	0.0
S2U512	01/09/12	0.0	S2UW02	01/09/12	0.0
S2U513	01/09/12	0.0	S2UW03	01/09/12	0.0
S2U514	01/09/12	0.0	S2UW04	01/09/12	0.0
S2U515	01/09/12	0.0	S2UW05	01/09/12	0.0
S2U516	01/09/12	0.0	S2UW06	01/09/12	0.0
S2U517	01/09/12	0.0	S2UW07	01/09/12	0.0
S2U518	01/09/12	0.0	S2UW08	01/09/12	0.0
S2U519	01/09/12	0.0			
S2U520	01/09/12	0.0			
S2U521	01/09/12	0.0			
S2U522	01/09/12	0.0			
S2U523	01/09/12	0.0			
S2U524	01/09/12	0.0			
S2U525	01/09/12	0.0			
S2U526	01/09/12	0.0			
S2U527	01/09/12	0.0			
S2U528	01/09/12	0.0			
S2U529	01/09/12	0.0			
S2U530	01/09/12	0.0			
S2U531	01/09/12	0.0			
S2U532	01/09/12	0.0			
S2U533	01/09/12	0.0			
S2U534	01/09/12	0.0			
S2U535	01/09/12	0.0			
S2U536	01/09/12	0.0			
S2U537	01/09/12	0.0			
S2U538	01/09/12	0.0			
S2U539	01/09/12	0.0			
S2U540	01/09/12	0.0			
S2U541	01/09/12	0.0			
S2U542	01/09/12	0.0			
S2U543	01/09/12	0.0			
S2U544	01/09/12	0.0			
S2U545	01/09/12	0.0			
S2U546	01/09/12	0.0			
S2U547	01/09/12	0.0			
S2U548	01/09/12	0.0			
S2U549	01/09/12	0.0			
S2U550	01/09/12	0.0			
S2U551	01/09/12	0.0			
S2U552	01/09/12	0.0			
S2U553	01/09/12	0.0			
S2U554	01/09/12	0.0			
S2U555	01/09/12	0.0			
S2U556	01/09/12	0.0			
S2U557	01/09/12	0.0			
S2U558	01/09/12	0.0			

5.2 UNIT 3

S3A008	04/14/90	31540.5	S3B018	01/02/87	23820.5	S3C001	04/30/88	31909.3
S3A019	09/14/85	14932.9	S3B019	01/02/87	24703.1	S3C002	04/30/88	33110.8
S3A021	04/14/90	31373.0	S3B020	01/02/87	25929.3	S3C003	04/30/88	33324.3
S3A022	09/14/85	15392.1	S3B021	01/02/87	25196.0	S3C004	04/30/88	34508.2
S3A023	09/14/85	15540.9	S3B022	01/02/87	24806.5	S3C005	04/30/88	35387.6
S3A024	09/14/85	15545.4	S3B023	01/02/87	25834.7	S3C007	04/30/88	32285.8
S3A026	09/14/85	15089.1	S3B024	01/02/87	24707.3	S3C009	04/30/88	33733.7
S3A027	09/14/85	15472.8	S3B025	01/02/87	25995.1	S3C010	04/30/88	33275.4
S3A029	04/14/90	31373.6	S3B026	01/02/87	24291.7	S3C011	04/30/88	35459.4
S3A031	09/14/85	15094.3	S3B027	01/02/87	24035.6	S3C012	04/30/88	35425.6
S3A032	09/14/85	15539.5	S3B028	01/02/87	24817.9	S3C013	04/30/88	35406.9
S3A033	09/14/85	15454.0	S3B029	01/02/87	26099.3	S3C014	04/30/88	32224.1
S3A034	09/14/85	15608.6	S3B030	01/02/87	24006.7	S3C015	04/30/88	33060.8
S3A037	04/14/90	31273.3	S3B031	01/02/87	24835.4	S3C016	04/30/88	34265.1
S3A038	09/14/85	14860.9	S3B032	01/02/87	25914.2	S3C017	04/30/88	31927.0
S3A040	09/14/85	14388.1	S3B033	01/02/87	25788.9	S3C018	04/30/88	32162.6
S3A041	09/14/85	15114.9	S3B034	01/02/87	25124.9	S3C020	04/30/88	33333.8
S3A043	09/14/85	14387.0	S3B035	01/02/87	24781.6	S3C021	04/30/88	33836.4
S3A045	09/14/85	14344.0	S3B036	01/02/87	25047.8	S3C022	04/30/88	33064.9
S3A046	09/14/85	14370.7	S3B037	01/02/87	25380.5	S3C023	04/30/88	35574.6
S3A047	09/14/85	14211.9	S3B038	01/02/87	25661.0	S3C024	04/30/88	32198.1
S3A049	09/14/85	15639.4	S3B039	01/02/87	25727.6	S3C025	04/30/88	33292.1
S3A052	09/14/85	15529.4	S3B040	01/02/87	25976.9	S3C026	04/30/88	33263.1
S3A053	09/14/85	15492.1	S3B041	01/02/87	26103.0	S3C027	04/30/88	35440.3
S3A054	04/14/90	24972.4	S3B042	01/02/87	25738.1	S3C028	04/30/88	32271.1
S3A055	09/14/85	14287.3	S3B043	01/02/87	26672.4	S3C029	04/30/88	32186.3
S3A057	09/14/85	14251.2	S3B045	01/02/87	25213.2	S3C030	04/30/88	32259.9
S3A059	09/14/85	14343.1	S3B046	01/02/87	25305.7	S3C032	04/30/88	32234.3
S3A060	09/14/85	14329.8	S3B047	01/02/87	25115.1	S3C033	04/30/88	32223.4
S3A061	09/14/85	14399.6	S3B048	01/02/87	25204.1	S3C034	04/30/88	33511.9
S3A062	09/14/85	14209.8	S3B049	01/02/87	26109.3	S3C035	04/30/88	32052.8
S3A063	01/24/92	23949.3	S3B050	01/02/87	25870.8	S3C036	04/30/88	33384.5
S3A064	10/10/93	25427.0	S3B052	01/02/87	26096.1	S3C037	04/30/88	35379.5
S3A065	09/14/85	14241.2	S3B053	01/02/87	26652.1	S3C038	04/30/88	33545.1
S3A066	09/14/85	14289.2	S3B054	01/02/87	25197.7	S3C039	04/30/88	34058.4
S3A067	09/14/85	15490.0	S3B055	01/02/87	24615.8	S3C040	04/30/88	35560.3
S3A068	01/02/87	19441.2	S3B056	01/02/87	25284.3	S3C101	04/30/88	36403.9
S3A069	09/14/85	15173.7	S3B057	01/02/87	25216.2	S3C102	04/30/88	36616.2
S3A071	09/14/85	15258.9	S3B060	01/02/87	25256.0	S3C103	04/30/88	36700.6
S3B001	01/02/87	26033.8	S3B061	01/02/87	26047.6	S3C104	04/30/88	36332.1
S3B003	01/02/87	25893.3	S3B062	01/02/87	24659.6	S3C105	04/30/88	36445.6
S3B004	01/02/87	25947.1	S3B063	01/02/87	25147.8	S3C106	04/30/88	36450.9
S3B005	01/02/87	26049.2	S3B067	01/02/87	24372.5	S3C107	04/30/88	36726.1
S3B006	01/02/87	25918.3	S3B068	01/02/87	23880.8	S3C108	04/30/88	36380.3
S3B007	01/02/87	25302.6	S3B069	01/02/87	25809.0	S3C201	04/30/88	35772.1
S3B008	01/02/87	25350.7	S3B070	01/02/87	23847.4	S3C202	04/30/88	35329.4
S3B009	01/02/87	25089.6	S3B071	01/02/87	24602.8	S3C203	01/02/87	26098.2
S3B010	01/02/87	25438.8	S3B072	01/02/87	25805.3	S3C204	04/30/88	37729.8
S3B011	01/02/87	25892.7	S3B074	01/02/87	23850.3	S3C207	04/30/88	37447.8
S3B012	01/02/87	25854.6	S3B076	01/02/87	26671.3	S3C210	04/30/88	37911.9
S3B013	01/02/87	24707.6	S3B077	01/02/87	24680.7	S3C212	04/30/88	35033.6
S3B014	01/02/87	25163.3	S3B078	01/02/87	24650.7	S3C213	04/30/88	37489.9
S3B015	01/02/87	25289.4	S3B079	01/02/87	26495.5	S3C216	04/30/88	35715.6
S3B016	01/02/87	25143.4	S3B080	01/02/87	25263.5	S3D016	04/14/90	30421.6

S3D018	04/14/90	29958.3	S3E213	04/14/90	34709.6	S3F218	01/24/92	35676.6
S3D021	04/14/90	32154.8	S3E215	04/14/90	38907.9	S3F219	01/24/92	45149.1
S3D026	04/14/90	31337.0	S3E216	04/14/90	36511.9	S3F220	01/24/92	35073.8
S3D028	04/14/90	31384.7	S3E217	04/14/90	35248.9	S3F221	01/24/92	35238.1
S3D029	04/14/90	32041.6	S3E218	04/14/90	38976.6	S3F222	01/24/92	45204.5
S3D030	04/14/90	30267.2	S3E219	04/14/90	35319.7	S3F224	01/24/92	47754.9
S3D031	04/14/90	31829.7	S3E221	04/14/90	38997.2	S3F225	01/24/92	46680.4
S3D032	04/14/90	31882.3	S3E222	04/14/90	39150.6	S3F226	01/24/92	47887.9
S3D034	04/14/90	31549.7	S3E225	04/14/90	35344.4	S3F227	01/24/92	47849.0
S3D036	04/14/90	31464.5	S3E226	04/14/90	36523.7	S3F228	01/24/92	45375.7
S3D040	04/14/90	30423.1	S3E227	04/14/90	38976.8	S3F231	01/24/92	47609.7
S3D043	04/14/90	32374.7	S3E228	04/14/90	35293.6	S3F232	01/24/92	47738.7
S3D045	04/14/90	31391.9	S3E301	04/14/90	39325.6	S3F233	01/24/92	42692.6
S3D104	04/30/88	26345.5	S3E302	04/14/90	38587.7	S3F234	01/24/92	42292.0
S3D105	04/30/88	27547.6	S3E303	04/14/90	38717.0	S3F235	01/24/92	48083.9
S3D106	04/30/88	27592.5	S3E304	04/14/90	40348.3	S3F236	01/24/92	45417.8
S3D108	04/30/88	26503.4	S3E305	04/14/90	39332.5	S3F239	01/24/92	35424.7
S3D109	04/30/88	27365.9	S3E306	04/14/90	39251.9	S3F241	01/24/92	47663.7
S3D110	04/30/88	26422.6	S3E307	04/14/90	39203.2	S3F242	01/24/92	46889.6
S3D113	04/30/88	27485.7	S3E308	04/14/90	39156.6	S3F244	01/24/92	35179.4
S3D114	04/30/88	26444.5	S3E309	04/14/90	40160.4	S3F245	01/24/92	46608.3
S3E001	04/14/90	37540.8	S3E310	04/14/90	40239.5	S3F247	01/24/92	45068.5
S3E003	04/14/90	37824.9	S3E311	04/14/90	39097.8	S3F248	01/24/92	42490.3
S3E004	04/14/90	34657.2	S3E312	04/14/90	40187.2	S3F249	01/24/92	47390.8
S3E005	04/14/90	34440.2	S3F002	01/24/92	36540.5	S3F250	01/24/92	42353.4
S3E007	04/14/90	34618.7	S3F005	01/24/92	36701.3	S3F251	01/24/92	43983.4
S3E008	04/14/90	37419.3	S3F006	01/24/92	35840.8	S3F252	01/24/92	43996.4
S3E009	04/14/90	35206.8	S3F008	01/24/92	35372.7	S3F255	01/24/92	35272.1
S3E014	04/14/90	34375.9	S3F010	01/24/92	37152.9	S3F256	01/24/92	35399.0
S3E016	04/14/90	34547.0	S3F011	01/24/92	36698.0	S3F301	01/24/92	45638.0
S3E017	04/14/90	34878.0	S3F012	01/24/92	36927.0	S3F302	01/24/92	45585.0
S3E018	04/14/90	37250.3	S3F013	01/24/92	36516.6	S3F303	01/24/92	46023.4
S3E019	04/14/90	35340.5	S3F015	01/24/92	36800.2	S3F304	01/24/92	44173.5
S3E020	04/14/90	35223.9	S3F016	01/24/92	36651.1	S3F305	01/24/92	44273.2
S3E025	04/14/90	35071.6	S3F101	01/24/92	41673.2	S3F306	01/24/92	44033.0
S3E027	04/14/90	35274.6	S3F102	01/24/92	42271.7	S3F307	01/24/92	45933.8
S3E028	04/14/90	35440.9	S3F103	01/24/92	41808.0	S3F308	01/24/92	47077.7
S3E029	04/14/90	37647.3	S3F104	01/24/92	41809.7	S3F309	01/24/92	44096.9
S3E030	04/14/90	35132.2	S3F107	01/24/92	41884.5	S3F310	01/24/92	46659.7
S3E032	04/14/90	35147.3	S3F108	01/24/92	41924.4	S3F311	01/24/92	46563.1
S3E033	04/14/90	34515.5	S3F109	01/24/92	37771.6	S3F312	01/24/92	45921.0
S3E037	04/14/90	37955.8	S3F110	01/24/92	41797.7	S3F313	01/24/92	46662.4
S3E038	04/14/90	37693.0	S3F111	01/24/92	37719.0	S3F314	01/24/92	46710.8
S3E039	04/14/90	37517.7	S3F112	01/24/92	41648.7	S3F315	01/24/92	46730.2
S3E102	04/14/90	39224.5	S3F201	01/24/92	45210.0	S3F316	01/24/92	46316.0
S3E103	04/14/90	39169.2	S3F202	01/24/92	35125.5	S3F401	01/24/92	41810.8
S3E104	04/14/90	39128.2	S3F203	01/24/92	44994.5	S3F402	01/24/92	41908.4
S3E105	04/14/90	39433.6	S3F204	01/24/92	45225.3	S3F403	01/24/92	42059.9
S3E106	04/14/90	39177.7	S3F206	01/24/92	35098.1	S3F404	01/24/92	41636.1
S3E107	04/14/90	39226.2	S3F208	01/24/92	47192.5	S3F405	01/24/92	41641.2
S3E108	04/14/90	39244.2	S3F209	01/24/92	43777.6	S3F406	01/24/92	41945.7
S3E202	04/14/90	39078.2	S3F210	01/24/92	43712.4	S3F407	01/24/92	41995.5
S3E205	04/14/90	36724.6	S3F211	01/24/92	44022.2	S3F408	01/24/92	41844.2
S3E206	04/14/90	36495.6	S3F212	01/24/92	44049.5	S3G001	10/10/93	36356.0
S3E207	04/14/90	35406.1	S3F213	01/24/92	35206.4	S3G003	10/10/93	36081.0
S3E209	04/14/90	39047.0	S3F214	01/24/92	43581.4	S3G006	10/10/93	36003.0
S3E211	04/14/90	39074.5	S3F215	01/24/92	43573.5	S3G101	10/10/93	41231.0
S3E212	04/14/90	34547.1	S3F216	01/24/92	35609.1	S3G102	10/10/93	41136.0

S3G104	10/10/93	41120.0	S3G404	10/10/93	41471.0	S3H305	07/22/95	45707.0
S3G106	10/10/93	41117.0	S3G405	10/10/93	41389.0	S3H306	07/22/95	47359.0
S3G107	10/10/93	41275.0	S3G406	10/10/93	40673.0	S3H307	07/22/95	47203.0
S3G108	10/10/93	41558.0	S3G407	10/10/93	41465.0	S3H308	07/22/95	47050.0
S3G109	10/10/93	42067.0	S3G408	10/10/93	41138.0	S3H309	07/22/95	47086.0
S3G111	10/10/93	41468.0	S3H001	03/27/99	48877.0	S3H310	07/22/95	46977.0
S3G201	10/10/93	45254.0	S3H002	03/27/99	47909.0	S3H311	07/22/95	43392.0
S3G202	10/10/93	41493.0	S3H003	03/27/99	48042.0	S3H312	07/22/95	43457.0
S3G205	10/10/93	41537.0	S3H012	03/27/99	48612.0	S3H313	07/22/95	45177.0
S3G206	10/10/93	46011.0	S3H013	03/27/99	48684.0	S3H315	07/22/95	45421.0
S3G209	10/10/93	45680.0	S3H014	03/27/99	48209.0	S3H316	07/22/95	45281.0
S3G210	10/10/93	42767.0	S3H015	03/27/99	48310.0	S3H401	07/22/95	41575.0
S3G211	10/10/93	45697.0	S3H016	03/27/99	48551.0	S3H402	07/22/95	41507.0
S3G214	10/10/93	42792.0	S3H103	07/22/95	42009.0	S3H403	07/22/95	41189.0
S3G215	10/10/93	42655.0	S3H105	07/22/95	42082.0	S3H404	07/22/95	41397.0
S3G216	10/10/93	45544.0	S3H106	07/22/95	41654.0	S3H405	07/22/95	41909.0
S3G217	10/10/93	42881.0	S3H107	07/22/95	41902.0	S3H406	07/22/95	41681.0
S3G220	10/10/93	43980.0	S3H108	07/22/95	41690.0	S3H407	07/22/95	41102.0
S3G221	10/10/93	43319.0	S3H110	07/22/95	41687.0	S3H408	07/22/95	41522.0
S3G224	07/22/95	46839.0	S3H111	07/22/95	41748.0	S3J005	04/12/97	36406.0
S3G225	10/10/93	42469.0	S3H112	07/22/95	42033.0	S3J006	04/12/97	42323.0
S3G226	10/10/93	44157.0	S3H201	07/22/95	43255.0	S3J009	04/12/97	42506.0
S3G227	10/10/93	42815.0	S3H202	07/22/95	42403.0	S3J010	04/12/97	42689.0
S3G228	10/10/93	43618.0	S3H203	07/22/95	43633.0	S3J011	04/12/97	42116.0
S3G229	10/10/93	43474.0	S3H204	07/22/95	43793.0	S3J012	04/12/97	42567.0
S3G230	10/10/93	45698.0	S3H205	04/12/97	45869.0	S3J013	04/12/97	42206.0
S3G232	10/10/93	41316.0	S3H209	07/22/95	47025.0	S3J014	04/12/97	42663.0
S3G233	10/10/93	44893.0	S3H210	07/22/95	46737.0	S3J015	04/12/97	42519.0
S3G234	10/10/93	41766.0	S3H211	07/22/95	44153.0	S3J106	04/12/97	40795.0
S3G235	10/10/93	43541.0	S3H212	07/22/95	43514.0	S3J201	04/12/97	47023.0
S3G236	10/10/93	45850.0	S3H213	07/22/95	43711.0	S3J202	04/12/97	44567.0
S3G239	10/10/93	44787.0	S3H214	07/22/95	43573.0	S3J203	04/12/97	47022.0
S3G241	10/10/93	44890.0	S3H216	07/22/95	43910.0	S3J204	04/12/97	46705.0
S3G244	10/10/93	43649.0	S3H217	07/22/95	42748.0	S3J212	04/12/97	43673.0
S3G245	10/10/93	43112.0	S3H218	07/22/95	46960.0	S3J215	04/12/97	44456.0
S3G248	10/10/93	45633.0	S3H220	07/22/95	43698.0	S3J216	04/12/97	44256.0
S3G251	10/10/93	43114.0	S3H221	07/22/95	46880.0	S3J217	04/12/97	46976.0
S3G252	10/10/93	45730.0	S3H222	07/22/95	47016.0	S3J219	04/12/97	44449.0
S3G254	10/10/93	43109.0	S3H223	07/22/95	47166.0	S3J221	04/12/97	44491.0
S3G301	10/10/93	45678.0	S3H226	07/22/95	42515.0	S3J223	04/12/97	43722.0
S3G302	10/10/93	42188.0	S3H230	07/22/95	45741.0	S3J225	04/12/97	37735.0
S3G303	10/10/93	45430.0	S3H232	07/22/95	46068.0	S3J227	04/12/97	41863.0
S3G304	10/10/93	45337.0	S3H237	07/22/95	47347.0	S3J228	04/12/97	44303.0
S3G305	10/10/93	44448.0	S3H239	07/22/95	45842.0	S3J230	04/12/97	43627.0
S3G306	10/10/93	45454.0	S3H244	07/22/95	42866.0	S3J233	04/12/97	43859.0
S3G307	10/10/93	44310.0	S3H248	07/22/95	44180.0	S3J234	04/12/97	46924.0
S3G308	10/10/93	42734.0	S3H249	07/22/95	44334.0	S3J236	04/12/97	46920.0
S3G309	10/10/93	46051.0	S3H250	07/22/95	44023.0	S3J238	04/12/97	44592.0
S3G310	10/10/93	42430.0	S3H251	07/22/95	43970.0	S3J239	04/12/97	41809.0
S3G311	10/10/93	45725.0	S3H252	07/22/95	43771.0	S3J247	04/12/97	37385.0
S3G312	10/10/93	42364.0	S3H253	07/22/95	44025.0	S3J248	04/12/97	41698.0
S3G313	10/10/93	45323.0	S3H254	07/22/95	43897.0	S3J249	04/12/97	37483.0
S3G314	10/10/93	44313.0	S3H255	03/27/99	52228.0	S3J251	04/12/97	44485.0
S3G315	10/10/93	44519.0	S3H256	07/22/95	46132.0	S3J253	04/12/97	41421.0
S3G316	10/10/93	45609.0	S3H301	07/22/95	47108.0	S3J254	04/12/97	47174.0
S3G401	10/10/93	40472.0	S3H302	07/22/95	47282.0	S3J255	04/12/97	47218.0
S3G402	10/10/93	40786.0	S3H303	07/22/95	43310.0	S3J256	04/12/97	38006.0
S3G403	10/10/93	40673.0	S3H304	07/22/95	43757.0	S3J301	04/12/97	47815.0

S3J302	04/12/97	45897.0	S3K234	03/27/99	46273.0	S3L405	01/02/01	50665.0
S3J303	04/12/97	46501.0	S3K235	03/27/99	46642.0	S3L406	01/02/01	50027.0
S3J304	04/12/97	45700.0	S3K238	01/06/03	49732.0	S3L407	01/02/01	50378.0
S3J305	04/12/97	47597.0	S3K239	01/02/01	43269.0	S3L408	01/06/03	45174.0
S3J306	04/12/97	47555.0	S3K240	03/27/99	46671.0	S3L409	01/06/03	45499.0
S3J307	04/12/97	45845.0	S3K241	03/27/99	48724.0	S3L410	01/02/01	47129.0
S3J308	04/12/97	47951.0	S3K243	09/27/04	50009.0	S3L411	01/02/01	50956.0
S3J309	04/12/97	45677.0	S3K244	03/27/99	46394.0	S3L412	01/02/01	50120.0
S3J310	04/12/97	46552.0	S3K246	03/27/99	48510.0	S3L413	01/02/01	50604.0
S3J311	04/12/97	47535.0	S3K250	03/27/99	48770.0	S3L414	01/06/03	45432.0
S3J312	04/12/97	47421.0	S3K252	01/02/01	50990.0	S3L415	01/06/03	45288.0
S3J313	04/12/97	47559.0	S3K253	10/16/06	51343.0	S3L416	01/02/01	49469.0
S3J314	04/12/97	47542.0	S3K254	03/27/99	47087.0	S3L417	01/02/01	50225.0
S3J315	04/12/97	46359.0	S3K255	03/27/99	46700.0	S3L418	01/06/03	47405.0
S3J316	04/12/97	45735.0	S3K256	03/27/99	47334.0	S3L419	01/02/01	49605.0
S3J401	04/12/97	46852.0	S3K301	03/27/99	48733.0	S3L420	01/02/01	49605.0
S3J402	04/12/97	46696.0	S3K302	03/27/99	48882.0	S3L421	01/06/03	47336.0
S3J403	04/12/97	46665.0	S3K303	03/27/99	48431.0	S3L422	01/02/01	49763.0
S3J404	04/12/97	46935.0	S3K304	03/27/99	49138.0	S3L423	01/02/01	49393.0
S3J405	04/12/97	46329.0	S3K305	03/27/99	49067.0	S3L424	01/02/01	49707.0
S3J406	04/12/97	46344.0	S3K306	03/27/99	43105.0	S3L425	01/02/01	49683.0
S3J407	04/12/97	46254.0	S3K307	03/27/99	48747.0	S3L426	01/02/01	50710.0
S3J408	04/12/97	46264.0	S3K308	03/27/99	43112.0	S3L427	01/06/03	46965.0
S3K105	03/27/99	43825.0	S3K309	03/27/99	47826.0	S3L428	01/02/01	50005.0
S3K106	03/27/99	43936.0	S3K310	03/27/99	43084.0	S3L429	01/02/01	49465.0
S3K107	03/27/99	43929.0	S3K311	03/27/99	48830.0	S3L430	01/06/03	45579.0
S3K108	03/27/99	43729.0	S3K312	03/27/99	48613.0	S3L431	01/02/01	50761.0
S3K109	03/27/99	43877.0	S3K313	03/27/99	48737.0	S3L432	01/02/01	50837.0
S3K110	03/27/99	43863.0	S3K314	03/27/99	43380.0	S3L433	01/02/01	50703.0
S3K111	03/27/99	43828.0	S3K315	03/27/99	49220.0	S3L434	01/06/03	45397.0
S3K112	03/27/99	44106.0	S3K316	03/27/99	48823.0	S3L435	01/06/03	45000.0
S3K201	01/02/01	43332.0	S3L105	01/02/01	47728.0	S3L436	01/02/01	47452.0
S3K202	01/02/01	43292.0	S3L115	01/02/01	47763.0	S3L437	01/06/03	47169.0
S3K204	03/27/99	47259.0	S3L116	01/02/01	48077.0	S3L438	01/06/03	45441.0
S3K205	03/27/99	47472.0	S3L201	01/02/01	49616.0	S3L439	01/06/03	47293.0
S3K207	03/27/99	48461.0	S3L202	01/02/01	49476.0	S3L440	01/06/03	46619.0
S3K208	03/27/99	46494.0	S3L203	01/02/01	49697.0	S3L441	01/02/01	49675.0
S3K209	01/02/01	43600.0	S3L204	01/02/01	48875.0	S3L442	01/02/01	49656.0
S3K211	03/27/99	47014.0	S3L205	01/02/01	49461.0	S3L443	01/02/01	47667.0
S3K212	03/27/99	47423.0	S3L206	01/02/01	48476.0	S3L444	01/02/01	46817.0
S3K213	03/27/99	46599.0	S3L207	01/02/01	49510.0	S3M001	09/27/04	46383.0
S3K217	01/02/01	43354.0	S3L208	01/02/01	49625.0	S3M005	09/27/04	46241.0
S3K218	03/27/99	46787.0	S3L301	01/02/01	51033.0	S3M007	09/27/04	46179.0
S3K219	03/27/99	48678.0	S3L302	01/02/01	48148.0	S3M008	09/27/04	46235.0
S3K220	03/27/99	49025.0	S3L304	01/02/01	48593.0	S3M009	09/27/04	45743.0
S3K221	03/27/99	45347.0	S3L305	01/02/01	51041.0	S3M010	09/27/04	46003.0
S3K222	01/02/01	43284.0	S3L306	01/02/01	48438.0	S3M011	09/27/04	45866.0
S3K223	03/27/99	45686.0	S3L307	01/02/01	51503.0	S3M014	09/27/04	46118.0
S3K224	03/27/99	46486.0	S3L308	01/02/01	51382.0	S3M101	01/06/03	41522.0
S3K225	03/27/99	48987.0	S3L312	01/02/01	50569.0	S3M102	01/06/03	41235.0
S3K226	03/27/99	47201.0	S3L313	01/02/01	50999.0	S3M103	01/06/03	42201.0
S3K227	03/27/99	47286.0	S3L314	01/02/01	50886.0	S3M105	01/06/03	41509.0
S3K228	03/27/99	47286.0	S3L315	01/02/01	51348.0	S3M106	01/06/03	41927.0
S3K229	03/27/99	47089.0	S3L316	01/02/01	48273.0	S3M107	01/06/03	41873.0
S3K230	03/27/99	45288.0	S3L401	01/06/03	46529.0	S3M401	01/06/03	47812.0
S3K231	03/27/99	45295.0	S3L402	01/02/01	49988.0	S3M402	01/06/03	47483.0
S3K232	03/27/99	46539.0	S3L403	01/06/03	47356.0	S3M403	01/06/03	47253.0
S3K233	03/27/99	48824.0	S3L404	01/02/01	50147.0	S3M404	01/06/03	47583.0

S3M405	01/06/03	47435.0	S3M567	01/06/03	45679.0	S3N521	09/27/04	48676.0
S3M406	01/06/03	47808.0	S3M568	01/06/03	49026.0	S3N522	09/27/04	48577.0
S3M407	01/06/03	47144.0	S3N001	09/27/04	43342.0	S3N523	09/27/04	49888.0
S3M408	01/06/03	47587.0	S3N002	09/27/04	42829.0	S3N524	09/27/04	48874.0
S3M501	01/06/03	47643.0	S3N003	10/16/06	46994.0	S3N525	09/27/04	49249.0
S3M502	01/06/03	47668.0	S3N004	09/27/04	43175.0	S3N526	09/27/04	49178.0
S3M503	09/27/04	42269.0	S3N005	10/16/06	46662.0	S3N527	09/27/04	47090.0
S3M504	01/06/03	47913.0	S3N006	10/16/06	46322.0	S3N528	09/27/04	46981.0
S3M505	01/06/03	45859.0	S3N007	10/16/06	46775.0	S3N529	09/27/04	47240.0
S3M506	09/27/04	42373.0	S3N008	10/16/06	46618.0	S3N530	09/27/04	47959.0
S3M507	01/06/03	47557.0	S3N009	09/27/04	43108.0	S3N531	09/27/04	48795.0
S3M508	01/06/03	48992.0	S3N010	09/27/04	43324.0	S3N532	09/27/04	47186.0
S3M509	01/06/03	48792.0	S3N011	09/27/04	43327.0	S3N533	10/16/06	42309.0
S3M510	01/06/03	48801.0	S3N012	09/27/04	43454.0	S3N534	09/27/04	47482.0
S3M511	01/06/03	48897.0	S3N013	10/16/06	46861.0	S3N535	09/27/04	49437.0
S3M512	01/06/03	48941.0	S3N014	10/16/06	46970.0	S3N536	09/27/04	48998.0
S3M513	01/06/03	45229.0	S3N015	10/16/06	46745.0	S3N537	09/27/04	47128.0
S3M514	09/27/04	42040.0	S3N016	09/27/04	43973.0	S3N538	10/16/06	41781.0
S3M515	09/27/04	42151.0	S3N101	09/27/04	42409.0	S3N541	09/27/04	48994.0
S3M516	01/06/03	45752.0	S3N102	09/27/04	40071.0	S3N543	09/27/04	38003.0
S3M517	01/06/03	48767.0	S3N103	09/27/04	39798.0	S3N544	10/16/06	42495.0
S3M519	01/06/03	47702.0	S3N104	09/27/04	42258.0	S3N546	09/27/04	47032.0
S3M520	01/06/03	45596.0	S3N105	09/27/04	40471.0	S3N547	09/27/04	49294.0
S3M521	01/06/03	47382.0	S3N106	09/27/04	42908.0	S3N548	09/27/04	47315.0
S3M522	01/06/03	45831.0	S3N108	09/27/04	42205.0	S3N549	09/27/04	48091.0
S3M523	01/06/03	49082.0	S3N301	09/27/04	46836.0	S3N551	09/27/04	37911.0
S3M524	01/06/03	48494.0	S3N302	09/27/04	46898.0	S3N552	10/16/06	42305.0
S3M525	01/06/03	48687.0	S3N303	09/27/04	47300.0	S3N553	10/16/06	42557.0
S3M526	01/06/03	46115.0	S3N304	09/27/04	47056.0	S3N555	10/16/06	41860.0
S3M527	01/06/03	47300.0	S3N401	09/27/04	46441.0	S3N556	09/27/04	47982.0
S3M528	01/06/03	46297.0	S3N402	09/27/04	46518.0	S3N557	10/16/06	42374.0
S3M529	01/06/03	48663.0	S3N403	09/27/04	46574.0	S3N558	09/27/04	46744.0
S3M531	01/06/03	47517.0	S3N404	09/27/04	46258.0	S3N559	09/27/04	47620.0
S3M532	01/06/03	45870.0	S3N405	09/27/04	45914.0	S3N560	09/27/04	49151.0
S3M536	01/06/03	48309.0	S3N406	09/27/04	49984.0	S3P001	10/12/08	51330.0
S3M538	01/06/03	46328.0	S3N407	09/27/04	48847.0	S3P002	01/31/12	43680.0
S3M539	01/06/03	47255.0	S3N408	09/27/04	49238.0	S3P003	10/16/06	38909.0
S3M540	01/06/03	48293.0	S3N409	09/27/04	46152.0	S3P004	10/16/06	35263.0
S3M541	01/06/03	48452.0	S3N410	09/27/04	45891.0	S3P005	10/16/06	38179.0
S3M542	01/06/03	37478.0	S3N411	09/27/04	49006.0	S3P006	10/16/06	38204.0
S3M544	01/06/03	46047.0	S3N412	09/27/04	46184.0	S3P007	10/16/06	38910.0
S3M545	01/06/03	45750.0	S3N501	09/27/04	41285.0	S3P008	10/16/06	35606.0
S3M546	01/06/03	47645.0	S3N503	09/27/04	46605.0	S3P101	10/12/08	45956.0
S3M547	09/27/04	42093.0	S3N505	09/27/04	46691.0	S3P102	10/12/08	46044.0
S3M550	01/06/03	48370.0	S3N506	09/27/04	48530.0	S3P103	10/12/08	45908.0
S3M551	01/06/03	47646.0	S3N507	09/27/04	47738.0	S3P104	10/12/08	46170.0
S3M552	01/06/03	48290.0	S3N508	09/27/04	48906.0	S3P105	10/12/08	46622.0
S3M553	01/06/03	47483.0	S3N509	09/27/04	49281.0	S3P106	10/12/08	46714.0
S3M556	01/06/03	46019.0	S3N510	09/27/04	48185.0	S3P107	10/12/08	46456.0
S3M557	01/06/03	47143.0	S3N511	09/27/04	47528.0	S3P108	10/12/08	46934.0
S3M558	01/06/03	47363.0	S3N512	09/27/04	49085.0	S3P201	10/16/06	46929.0
S3M559	01/06/03	37400.0	S3N513	09/27/04	47014.0	S3P202	10/16/06	42745.0
S3M561	01/06/03	47502.0	S3N514	09/27/04	48745.0	S3P203	10/16/06	42483.0
S3M562	01/06/03	45624.0	S3N516	09/27/04	48517.0	S3P204	10/16/06	42327.0
S3M563	01/06/03	47758.0	S3N517	10/16/06	42640.0	S3P205	10/16/06	46976.0
S3M564	01/06/03	41163.0	S3N518	09/27/04	46503.0	S3P206	10/16/06	46950.0
S3M565	01/06/03	45743.0	S3N519	09/27/04	48028.0	S3P207	10/16/06	43020.0
S3M566	01/06/03	46364.0	S3N520	09/27/04	48614.0	S3P208	10/16/06	43313.0

S3P209	10/16/06	42445.0	S3P543	10/16/06	49623.0	S3Q401	10/12/08	48741.0
S3P210	10/16/06	46956.0	S3P544	10/16/06	48573.0	S3Q402	10/12/08	48890.0
S3P211	10/16/06	46722.0	S3P545	10/12/08	55006.0	S3Q403	10/12/08	48369.0
S3P212	10/16/06	46207.0	S3P546	10/16/06	48823.0	S3Q404	10/12/08	48788.0
S3P213	10/16/06	46782.0	S3P547	10/16/06	48717.0	S3Q405	10/12/08	48296.0
S3P214	10/16/06	42497.0	S3P548	10/12/08	55085.0	S3Q406	10/12/08	48385.0
S3P215	10/16/06	47175.0	S3P549	10/16/06	35985.0	S3Q407	10/12/08	48333.0
S3P216	10/16/06	43190.0	S3P550	10/16/06	35930.0	S3Q408	10/12/08	48790.0
S3P401	10/16/06	46562.0	S3P551	10/16/06	48200.0	S3Q501	10/10/10	52581.0
S3P402	10/16/06	46670.0	S3P552	10/16/06	48295.0	S3Q502	10/12/08	37226.0
S3P403	10/16/06	46352.0	S3P553	10/16/06	35790.0	S3Q503	10/12/08	46722.0
S3P404	10/16/06	46630.0	S3P554	10/16/06	35530.0	S3Q504	10/12/08	47023.0
S3P405	10/16/06	47021.0	S3P555	10/16/06	48292.0	S3Q505	10/12/08	46900.0
S3P406	10/16/06	46246.0	S3P556	10/16/06	49405.0	S3Q506	10/12/08	48516.0
S3P407	10/16/06	46228.0	S3P557	10/16/06	35704.0	S3Q507	10/12/08	46831.0
S3P408	10/16/06	46476.0	S3P558	10/16/06	48170.0	S3Q508	10/12/08	49435.0
S3P501	10/12/08	54572.0	S3P559	10/16/06	48158.0	S3Q509	10/12/08	49931.0
S3P502	10/16/06	49533.0	S3P560	10/16/06	49382.0	S3Q510	10/12/08	47871.0
S3P503	10/16/06	49194.0	S3Q001	10/10/10	49897.0	S3Q511	10/12/08	49756.0
S3P504	10/16/06	48750.0	S3Q002	10/10/10	50542.0	S3Q512	10/12/08	47499.0
S3P505	10/16/06	49231.0	S3Q003	10/10/10	50348.0	S3Q513	10/12/08	49385.0
S3P506	10/16/06	49212.0	S3Q004	10/10/10	50033.0	S3Q514	10/12/08	49939.0
S3P507	10/16/06	49558.0	S3Q005	10/12/08	39575.0	S3Q515	10/12/08	49416.0
S3P508	10/12/08	54357.0	S3Q006	10/12/08	40296.0	S3Q516	10/12/08	49339.0
S3P509	10/16/06	49457.0	S3Q007	10/12/08	40333.0	S3Q517	10/12/08	49641.0
S3P510	10/16/06	35703.0	S3Q008	10/12/08	39518.0	S3Q518	10/12/08	37345.0
S3P511	10/16/06	35655.0	S3Q101	10/12/08	41088.0	S3Q519	10/12/08	48431.0
S3P512	10/16/06	48668.0	S3Q102	10/12/08	41045.0	S3Q520	10/12/08	37495.0
S3P513	10/16/06	49571.0	S3Q103	10/12/08	41221.0	S3Q521	10/12/08	37479.0
S3P514	10/16/06	49413.0	S3Q104	10/12/08	41065.0	S3Q522	10/12/08	37473.0
S3P515	10/16/06	49481.0	S3Q105	10/12/08	40932.0	S3Q523	10/12/08	48762.0
S3P516	10/16/06	49684.0	S3Q106	10/12/08	41268.0	S3Q524	10/12/08	48506.0
S3P517	10/16/06	49659.0	S3Q107	10/12/08	41048.0	S3Q525	10/12/08	49458.0
S3P518	10/16/06	49853.0	S3Q108	10/12/08	40980.0	S3Q526	10/12/08	48643.0
S3P519	10/16/06	49417.0	S3Q201	10/12/08	38160.0	S3Q527	10/12/08	48597.0
S3P520	10/16/06	49582.0	S3Q202	10/12/08	38273.0	S3Q528	10/12/08	48301.0
S3P521	10/16/06	49660.0	S3Q203	10/12/08	37880.0	S3Q529	10/12/08	48352.0
S3P522	10/16/06	49837.0	S3Q204	10/12/08	43393.0	S3Q530	10/12/08	37335.0
S3P523	10/16/06	49953.0	S3Q205	10/12/08	38132.0	S3Q531	10/12/08	37281.0
S3P524	10/16/06	49071.0	S3Q206	10/12/08	43389.0	S3Q532	10/12/08	48461.0
S3P525	10/16/06	49225.0	S3Q207	10/12/08	43295.0	S3Q533	10/12/08	48675.0
S3P526	10/12/08	55039.0	S3Q208	10/12/08	42925.0	S3Q534	10/10/10	48774.0
S3P527	10/16/06	49349.0	S3Q209	10/12/08	43322.0	S3Q535	10/10/10	52503.0
S3P528	10/16/06	49803.0	S3Q210	10/12/08	38028.0	S3Q536	10/12/08	37137.0
S3P529	10/16/06	49311.0	S3Q211	10/12/08	38073.0	S3Q537	10/12/08	49304.0
S3P530	10/16/06	48444.0	S3Q212	10/12/08	38187.0	S3Q538	10/12/08	37052.0
S3P531	10/12/08	54762.0	S3Q213	10/12/08	38233.0	S3Q539	10/10/10	52250.0
S3P532	10/16/06	49372.0	S3Q214	10/12/08	43184.0	S3Q540	10/10/10	52292.0
S3P533	10/16/06	49254.0	S3Q215	10/12/08	43338.0	S3Q541	10/12/08	48619.0
S3P534	10/16/06	49277.0	S3Q216	10/12/08	43415.0	S3Q542	10/12/08	37618.0
S3P535	10/16/06	48843.0	S3Q301	10/12/08	47226.0	S3Q543	10/12/08	37436.0
S3P536	10/16/06	48829.0	S3Q302	10/12/08	47462.0	S3Q544	10/12/08	49278.0
S3P537	10/16/06	48586.0	S3Q303	10/12/08	47257.0	S3Q545	10/12/08	49224.0
S3P538	10/16/06	48552.0	S3Q304	10/12/08	47614.0	S3Q546	10/12/08	47465.0
S3P539	10/16/06	49320.0	S3Q305	10/12/08	47494.0	S3Q547	10/12/08	49647.0
S3P540	10/12/08	54962.0	S3Q306	10/12/08	47424.0	S3Q548	10/12/08	49879.0
S3P541	10/12/08	54563.0	S3Q307	10/12/08	47507.0	S3Q549	10/12/08	49908.0
S3P542	10/16/06	36063.0	S3Q308	10/12/08	47489.0	S3Q550	10/12/08	48579.0

S3Q551	10/12/08	47823.0	S3R517	10/10/10	35666.0	S3S107	01/31/12	35771.0
S3Q552	10/12/08	49607.0	S3R518	10/10/10	37510.0	S3S108	01/31/12	35602.0
S3R001	10/10/10	43444.0	S3R519	10/10/10	49451.0	S3S201	01/31/12	38803.0
S3R002	10/10/10	43535.0	S3R520	10/10/10	50810.0	S3S202	01/31/12	39112.0
S3R003	10/10/10	43449.0	S3R521	10/10/10	51076.0	S3S203	01/31/12	37405.0
S3R004	10/10/10	43524.0	S3R522	10/10/10	50612.0	S3S204	01/31/12	37565.0
S3R005	10/10/10	42883.0	S3R523	10/10/10	50062.0	S3S205	01/31/12	37457.0
S3R006	10/10/10	43059.0	S3R524	10/10/10	50343.0	S3S206	01/31/12	37443.0
S3R007	10/10/10	43279.0	S3R525	10/10/10	50250.0	S3S207	01/31/12	39201.0
S3R008	10/10/10	43039.0	S3R526	10/10/10	51037.0	S3S208	01/31/12	39064.0
S3R101	10/10/10	45770.0	S3R527	10/10/10	35796.0	S3S209	01/31/12	39094.0
S3R102	10/10/10	45596.0	S3R528	10/10/10	50505.0	S3S210	01/31/12	38900.0
S3R103	10/10/10	45448.0	S3R529	10/10/10	50371.0	S3S211	01/31/12	39008.0
S3R104	10/10/10	45908.0	S3R530	10/10/10	49276.0	S3S212	01/31/12	39061.0
S3R105	10/10/10	45945.0	S3R531	10/10/10	36412.0	S3S301	01/31/12	35135.0
S3R106	10/10/10	45866.0	S3R532	10/10/10	36221.0	S3S302	01/31/12	34947.0
S3R107	10/10/10	45574.0	S3R533	10/10/10	49428.0	S3S303	01/31/12	35265.0
S3R108	10/10/10	45491.0	S3R534	10/10/10	49405.0	S3S304	01/31/12	34719.0
S3R301	10/10/10	46529.0	S3R535	10/10/10	35965.0	S3S305	01/31/12	35305.0
S3R302	10/10/10	47005.0	S3R536	10/10/10	48939.0	S3S306	01/31/12	34331.0
S3R303	10/10/10	43213.0	S3R537	10/10/10	51067.0	S3S307	01/31/12	35340.0
S3R304	10/10/10	43109.0	S3R538	10/10/10	51052.0	S3S308	01/31/12	34264.0
S3R305	10/10/10	43283.0	S3R539	10/10/10	49375.0	S3S309	01/31/12	34731.0
S3R306	10/10/10	43396.0	S3R540	10/10/10	49451.0	S3S310	01/31/12	35548.0
S3R307	10/10/10	43089.0	S3R541	10/10/10	49014.0	S3S311	01/31/12	35546.0
S3R308	10/10/10	42949.0	S3R542	10/10/10	49285.0	S3S312	01/31/12	35224.0
S3R309	10/10/10	42856.0	S3R543	10/10/10	38229.0	S3S401	01/31/12	39466.0
S3R310	10/10/10	46862.0	S3R544	10/10/10	36266.0	S3S402	01/31/12	39530.0
S3R311	10/10/10	43171.0	S3R545	10/10/10	50202.0	S3S403	01/31/12	39762.0
S3R312	10/10/10	46625.0	S3R546	10/10/10	49572.0	S3S404	01/31/12	39632.0
S3R401	10/10/10	49997.0	S3R547	10/10/10	50220.0	S3S405	01/31/12	39782.0
S3R402	10/10/10	50034.0	S3R548	10/10/10	38276.0	S3S406	01/31/12	39781.0
S3R403	10/10/10	49941.0	S3R549	10/10/10	50218.0	S3S407	01/31/12	39821.0
S3R404	10/10/10	49978.0	S3R550	10/10/10	37595.0	S3S408	01/31/12	39728.0
S3R405	10/10/10	37824.0	S3R551	10/10/10	37448.0	S3S409	01/31/12	38634.0
S3R406	10/10/10	37427.0	S3R552	10/10/10	38222.0	S3S410	01/31/12	38391.0
S3R407	10/10/10	37297.0	S3R553	10/10/10	38335.0	S3S411	01/31/12	38687.0
S3R408	10/10/10	37759.0	S3R554	10/10/10	36181.0	S3S412	01/31/12	38473.0
S3R409	10/10/10	37301.0	S3R555	10/10/10	49403.0	S3S501	01/31/12	33773.0
S3R410	10/10/10	37839.0	S3R556	10/10/10	37614.0	S3S502	01/31/12	33491.0
S3R411	10/10/10	37536.0	S3R557	10/10/10	51138.0	S3S503	01/31/12	33963.0
S3R412	10/10/10	37864.0	S3R558	10/10/10	39127.0	S3S504	01/31/12	34183.0
S3R501	10/10/10	50876.0	S3R559	10/10/10	38893.0	S3S505	01/31/12	39047.0
S3R502	10/10/10	51194.0	S3R560	10/10/10	38890.0	S3S506	01/31/12	39112.0
S3R503	10/10/10	39000.0	S3S001	01/31/12	31026.0	S3S507	01/31/12	33482.0
S3R504	10/10/10	39046.0	S3S002	01/31/12	31515.0	S3S508	01/31/12	38991.0
S3R505	10/10/10	50240.0	S3S003	01/31/12	31199.0	S3S509	01/31/12	34348.0
S3R506	10/10/10	38849.0	S3S004	01/31/12	31147.0	S3S510	01/31/12	33362.0
S3R507	10/10/10	50057.0	S3S005	01/31/12	31619.0	S3S511	01/31/12	39017.0
S3R508	10/10/10	38876.0	S3S006	01/31/12	31396.0	S3S512	01/31/12	35622.0
S3R509	10/10/10	50423.0	S3S007	01/31/12	31276.0	S3S513	01/31/12	33664.0
S3R510	10/10/10	38768.0	S3S008	01/31/12	31500.0	S3S514	01/31/12	33753.0
S3R511	10/10/10	50110.0	S3S101	01/31/12	35381.0	S3S515	01/31/12	34010.0
S3R512	10/10/10	50105.0	S3S102	01/31/12	35440.0	S3S516	01/31/12	33482.0
S3R513	10/10/10	50392.0	S3S103	01/31/12	35404.0	S3S517	01/31/12	35184.0
S3R514	10/10/10	50468.0	S3S104	01/31/12	35514.0	S3S518	01/31/12	33831.0
S3R515	10/10/10	49286.0	S3S105	01/31/12	35680.0	S3S519	01/31/12	33700.0
S3R516	10/10/10	35820.0	S3S106	01/31/12	35624.0	S3S520	01/31/12	32793.0

S3S521	01/31/12	39071.0	S3T205	01/31/12	11888.0	S3T521	01/31/12	14591.0
S3S522	01/31/12	33801.0	S3T206	01/31/12	11900.0	S3T522	01/31/12	16232.0
S3S523	01/31/12	34018.0	S3T207	01/31/12	11902.0	S3T523	01/31/12	16123.0
S3S524	01/31/12	33974.0	S3T208	01/31/12	11910.0	S3T524	01/31/12	14651.0
S3S525	01/31/12	37617.0	S3T301	01/31/12	15912.0	S3T525	01/31/12	16203.0
S3S526	01/31/12	33035.0	S3T302	01/31/12	11410.0	S3T526	01/31/12	16606.0
S3S527	01/31/12	41254.0	S3T303	01/31/12	11277.0	S3T527	01/31/12	15742.0
S3S528	01/31/12	35090.0	S3T304	01/31/12	11083.0	S3T528	01/31/12	16248.0
S3S529	01/31/12	41289.0	S3T305	01/31/12	11464.0	S3T529	01/31/12	14468.0
S3S530	01/31/12	34099.0	S3T306	01/31/12	11414.0	S3T530	01/31/12	16528.0
S3S531	01/31/12	39255.0	S3T307	01/31/12	11736.0	S3T531	01/31/12	16386.0
S3S532	01/31/12	38995.0	S3T308	01/31/12	11913.0	S3T532	01/31/12	14445.0
S3S533	01/31/12	35271.0	S3T309	01/31/12	16000.0	S3T533	01/31/12	15591.0
S3S534	01/31/12	41142.0	S3T310	01/31/12	15899.0	S3T534	01/31/12	14639.0
S3S535	01/31/12	41209.0	S3T311	01/31/12	15886.0	S3T535	01/31/12	15523.0
S3S536	01/31/12	32859.0	S3T312	01/31/12	11412.0	S3T536	01/31/12	15751.0
S3S537	01/31/12	33224.0	S3T401	01/31/12	15089.0	S3T537	01/31/12	15972.0
S3S538	01/31/12	34223.0	S3T402	01/31/12	15010.0	S3T538	01/31/12	16103.0
S3S539	01/31/12	35440.0	S3T403	01/31/12	15044.0	S3T539	01/31/12	15990.0
S3S540	01/31/12	35221.0	S3T404	01/31/12	15980.0	S3T540	01/31/12	13606.0
S3S541	01/31/12	35582.0	S3T405	01/31/12	15093.0	S3T541	01/31/12	15682.0
S3S542	01/31/12	38954.0	S3T406	01/31/12	15108.0	S3T542	01/31/12	13684.0
S3S543	01/31/12	34491.0	S3T407	01/31/12	14987.0	S3T543	01/31/12	16080.0
S3S544	01/31/12	40526.0	S3T408	01/31/12	14999.0	S3T544	01/31/12	16022.0
S3S545	01/31/12	35574.0	S3T409	01/31/12	15879.0	S3T545	01/31/12	15608.0
S3S546	01/31/12	33336.0	S3T410	01/31/12	16047.0	S3T546	01/31/12	16000.0
S3S547	01/31/12	37772.0	S3T411	01/31/12	15989.0	S3T547	01/31/12	15888.0
S3S548	01/31/12	40663.0	S3T412	01/31/12	15021.0	S3T548	01/31/12	16195.0
S3S549	01/31/12	40703.0	S3T501	01/31/12	16358.0	S3T549	01/31/12	15761.0
S3S550	01/31/12	40677.0	S3T502	01/31/12	15692.0	S3T550	01/31/12	15681.0
S3S551	01/31/12	37725.0	S3T503	01/31/12	16319.0	S3T551	01/31/12	16416.0
S3S552	01/31/12	40371.0	S3T504	01/31/12	14565.0	S3T552	01/31/12	16165.0
S3S553	01/31/12	40621.0	S3T505	01/31/12	16097.0	S3T553	01/31/12	15425.0
S3S554	01/31/12	40355.0	S3T506	01/31/12	13280.0	S3T554	01/31/12	16357.0
S3S555	01/31/12	40614.0	S3T507	01/31/12	14574.0	S3T555	01/31/12	13427.0
S3S556	01/31/12	37692.0	S3T508	01/31/12	16234.0	S3T556	01/31/12	15504.0
S3T001	01/31/12	9503.0	S3T509	01/31/12	14574.0	S3T557	01/31/12	15789.0
S3T002	01/31/12	9439.0	S3T510	01/31/12	16173.0	S3T558	01/31/12	13644.0
S3T003	01/31/12	9655.0	S3T511	01/31/12	16134.0	S3T559	01/31/12	14734.0
S3T004	01/31/12	9730.0	S3T512	01/31/12	16232.0	S3T560	01/31/12	14513.0
S3T101	01/31/12	12458.0	S3T513	01/31/12	13526.0	S3T601	01/31/12	9329.0
S3T102	01/31/12	12369.0	S3T514	01/31/12	16227.0	S3T602	01/31/12	9331.0
S3T103	01/31/12	12467.0	S3T515	01/31/12	16299.0	S3T603	01/31/12	9568.0
S3T104	01/31/12	12390.0	S3T516	01/31/12	16264.0	S3T604	01/31/12	9666.0
S3T201	01/31/12	11823.0	S3T517	01/31/12	13181.0	S3T701	01/31/12	13461.0
S3T202	01/31/12	12009.0	S3T518	01/31/12	13599.0	S3T702	01/31/12	13490.0
S3T203	01/31/12	11956.0	S3T519	01/31/12	14448.0	S3T703	01/31/12	13504.0
S3T204	01/31/12	11865.0	S3T520	01/31/12	14365.0	S3T704	01/31/12	13512.0

6.0 SPENT FUEL POOL INVENTORY URANIUM LOADING

The following pages list the assemblies in each spent fuel pool with their initial total Uranium loading in grams, and initial U-235 loading in grams. All data in this section was obtained by running an 'initial weight report' in Tracworks (Reference 7.3.2).

6.1 UNIT 2

Assembly	Total U (g)	U-235 (g)	Assembly	Total U (g)	U-235 (g)
S2A001	428238	8046	S2B014	397882	9545
S2A002	427889	8034	S2B015	396422	9503
S2A004	427568	8030	S2B016	398192	9482
S2A011	426221	8024	S2B017	398102	9479
S2A016	426747	8021	S2B018	398194	9503
S2A017	426178	8013	S2B019	396901	9525
S2A021	425878	8011	S2B020	398335	9499
S2A022	426370	8019	S2B021	398166	9512
S2A024	426728	7992	S2B022	396760	9521
S2A025	426326	7981	S2B023	398879	9552
S2A033	426118	7991	S2B024	397654	9517
S2A034	426014	7990	S2B025	396160	9507
S2A035	426181	7986	S2B026	397981	9477
S2A037	426674	8004	S2B027	397572	9450
S2A038	426559	8003	S2B028	398012	9472
S2A043	428198	8046	S2B030	397787	9457
S2A044	425709	8025	S2B031	397071	9439
S2A050	426285	7991	S2B032	397664	9453
S2A055	427787	8041	S2B033	397519	9489
S2A059	427017	8000	S2B034	397881	9459
S2A066	427187	8026	S2B035	397740	9469
S2AT02	425439	8021	S2B036	398114	9482
S2AT04	427099	8015	S2B037	398058	9492
S2B001	398439	9519	S2B038	397838	9470
S2B002	397830	9523	S2B039	398542	9485
S2B003	397092	9507	S2B040	398673	9488
S2B004	397728	9515	S2B042	398586	9483
S2B005	397894	9529	S2B043	398383	9505
S2B006	397758	9525	S2B044	398114	9495
S2B008	398820	9540	S2B045	396995	9430
S2B009	399231	9576	S2B046	398241	9504
S2B010	399148	9574	S2B047	398883	9537
S2B011	399320	9578	S2B048	398895	9535
S2B012	399346	9579	S2B049	397882	9510
S2B013	399264	9577	S2B051	397200	9525

Assembly	Total U (g)	U-235 (g)	Assembly	Total U (g)	U-235 (g)
S2B054	399859	9574	S2C038	428007	12370
S2B055	398722	9514	S2C101	406448	11711
S2B056	398731	9519	S2C102	405820	11692
S2B057	398730	9533	S2C103	405427	11683
S2B058	398873	9540	S2C105	405815	11700
S2B059	399303	9570	S2C106	405393	11684
S2B061	398586	9524	S2C108	405580	11693
S2B062	399428	9565	S2C201	398617	11487
S2B063	399554	9555	S2C203	399137	11514
S2B064	398006	9514	S2C205	398771	11493
S2B065	397668	9493	S2C207	397225	11500
S2B066	397756	9458	S2C210	398912	11507
S2B069	398253	9538	S2C211	397619	11467
S2B070	399726	9586	S2C212	397599	11462
S2B071	398432	9499	S2D031	426308	14754
S2B072	398246	9490	S2D043	425477	14792
S2B073	397061	9440	S2D054	426909	14774
S2B074	397774	9525	S2D101	425938	11669
S2B075	398305	9481	S2D102	426505	11723
S2B076	399199	9557	S2D103	427006	11750
S2B077	397287	9510	S2D104	426821	11739
S2B078	397845	9499	S2D105	427521	11778
S2B079	397356	9514	S2D106	426978	11730
S2B080	397882	9474	S2D107	426187	11677
S2C003	425951	12289	S2D108	425713	11664
S2C004	426960	12318	S2D109	425982	11672
S2C005	428037	12345	S2D110	425590	11661
S2C006	428008	12351	S2D111	425942	11671
S2C008	428279	12362	S2D112	426469	11685
S2C009	428199	12358	S2D113	426048	11674
S2C010	427891	12348	S2D114	427071	11700
S2C011	427903	12351	S2D115	427770	11717
S2C014	427567	12338	S2D116	427964	11723
S2C016	428517	12362	S2E007	425071	16603
S2C018	428824	12364	S2E010	425546	16606
S2C021	427996	12352	S2E021	426397	16657
S2C022	428376	12352	S2E030	426194	16651
S2C024	427795	12339	S2E101	418983	16342
S2C026	428306	12349	S2E106	418772	16359
S2C027	427405	12319	S2E107	418676	16334
S2C028	426714	12301	S2E108	417993	16317
S2C030	427146	12323	S2E202	411486	13859
S2C034	427335	12292	S2E203	411341	13847
S2C035	427575	12299	S2E204	412836	13901

Assembly	Total U (g)	U-235 (g)	Assembly	Total U (g)	U-235 (g)
S2E207	412678	13901	S2F220	399258	15803
S2E210	410408	13821	S2F224	396893	15701
S2E211	411476	13852	S2F225	399081	15790
S2E214	410826	13835	S2F226	398551	15748
S2E215	410256	13814	S2F227	398666	15752
S2E216	410284	13814	S2F228	398489	15741
S2E217	410995	13842	S2F229	398530	15743
S2E218	411176	13844	S2F230	399174	15769
S2E219	411023	13839	S2F231	399145	15767
S2E220	412313	13879	S2F232	399029	15764
S2E221	411068	13842	S2F233	398702	15754
S2E222	411173	13844	S2F235	398857	15756
S2E223	412725	13892	S2F236	398399	15744
S2E227	410436	13825	S2F238	399319	15786
S2E228	411227	13853	S2F239	398413	15747
S2E301	397966	13391	S2F243	399266	15790
S2E302	398478	13415	S2F244	399204	15790
S2E303	397490	13377	S2F248	398903	15771
S2E304	397775	13388	S2F250	399572	15800
S2E305	398097	13402	S2F252	398273	15747
S2E306	396187	13331	S2F253	398351	15751
S2E307	397450	13377	S2F254	398423	15755
S2E308	397866	13389	S2F256	400980	15853
S2E309	397298	13369	S2F301	397528	16019
S2E310	396487	13340	S2F302	398256	16050
S2E311	395900	13323	S2F303	397412	16018
S2E312	396747	13358	S2F304	397331	16012
S2F101	414777	16433	S2F305	398991	16100
S2F102	413427	16365	S2F307	398308	16068
S2F103	414373	16428	S2F308	398756	16090
S2F104	414179	16421	S2F309	397904	16043
S2F105	414599	16438	S2F310	398330	16068
S2F106	417199	16528	S2F311	397578	16036
S2F107	414629	16439	S2F312	397956	16045
S2F108	416097	16484	S2F313	396860	15275
S2F111	414536	16430	S2F314	398280	15338
S2F207	400762	15832	S2F315	397903	15316
S2F208	400669	15835	S2F316	397996	15315
S2F209	401438	15890	S2F401	399637	15814
S2F210	400586	15841	S2F402	400335	15845
S2F212	400024	15801	S2F403	399473	15799
S2F214	400367	15833	S2F404	397756	15721
S2F215	400134	15831	S2F405	397861	15725
S2F219	400708	15846	S2F406	397984	15730

Assembly	Total U (g)	U-235 (g)	Assembly	Total U (g)	U-235 (g)
S2F407	398188	15750	S2G247	400043	15795
S2F408	397587	15727	S2G249	398466	15734
S2G006	428365	16953	S2G251	398223	15725
S2G013	428146	16924	S2G254	398811	15740
S2G015	427584	16923	S2G255	400042	15792
S2G016	427941	16910	S2G256	399142	15762
S2G101	413685	16322	S2G301	400453	16071
S2G102	414567	16382	S2G302	399991	16042
S2G103	414192	16356	S2G303	399372	16002
S2G104	414274	16379	S2G304	400138	16031
S2G105	415381	16404	S2G305	400006	16029
S2G106	414377	16399	S2G306	400915	16063
S2G107	414438	16395	S2G307	400656	16060
S2G108	414092	16335	S2G308	400741	16065
S2G109	414780	16409	S2G309	400268	16049
S2G110	414275	16386	S2G310	399080	16011
S2G111	415042	16404	S2G311	399132	16013
S2G112	414865	16394	S2G312	399740	16036
S2G202	399432	15795	S2G313	400310	16053
S2G204	399088	15779	S2G314	400981	16094
S2G205	398442	15724	S2G315	401142	16109
S2G206	398445	15749	S2G316	400291	16073
S2G207	399614	15783	S2G401	398115	15726
S2G208	399874	15788	S2G402	399012	15752
S2G211	400654	15807	S2G403	399235	15740
S2G212	400510	15806	S2G404	399365	15748
S2G214	400085	15797	S2G405	399512	15759
S2G216	399409	15780	S2G406	399516	15759
S2G217	399067	15757	S2G407	399419	15755
S2G218	398617	15751	S2G408	400012	15818
S2G221	398977	15791	S2H004	429245	17044
S2G227	400083	15776	S2H005	428946	17014
S2G229	398457	15706	S2H008	429084	17001
S2G233	400610	15793	S2H009	428785	16990
S2G234	398639	15725	S2H010	429234	17029
S2G235	398675	15713	S2H012	428951	16996
S2G236	399329	15740	S2H013	429128	17008
S2G239	398636	15720	S2H014	429050	16999
S2G240	400233	15789	S2H015	429014	17000
S2G241	399961	15783	S2H101	414822	16458
S2G242	398707	15745	S2H102	415000	16465
S2G243	398650	15742	S2H103	414473	16446
S2G244	398957	15758	S2H104	414617	16451
S2G245	398987	15761	S2H105	414530	16448

Assembly	Total U (g)	U-235 (g)	Assembly	Total U (g)	U-235 (g)
S2H106	414433	16444	S2H305	399614	16114
S2H107	414528	16448	S2H306	399775	16120
S2H108	414530	16448	S2H307	400169	16136
S2H109	414823	16460	S2H308	400393	16145
S2H110	414600	16451	S2H309	399611	16115
S2H111	414565	16450	S2H310	400179	16137
S2H112	414739	16457	S2H311	400913	16167
S2H201	399830	15833	S2H312	401164	16177
S2H203	399683	15853	S2H313	401102	16174
S2H208	399977	15866	S2H314	400925	16168
S2H209	399893	15865	S2H315	400744	16160
S2H210	399843	15862	S2H316	400775	16162
S2H214	400902	15889	S2H401	399106	15833
S2H215	400309	15865	S2H402	399066	15832
S2H216	400450	15869	S2H403	399126	15834
S2H218	400475	15872	S2H404	399013	15829
S2H219	400360	15867	S2H501	427151	16732
S2H220	400756	15883	S2H502	426832	16724
S2H222	400092	15832	S2H503	427765	16757
S2H223	400082	15829	S2H504	427637	16751
S2H224	399974	15825	S2J001	429743	16982
S2H225	400048	15830	S2J002	429719	16981
S2H226	399788	15820	S2J003	429715	16980
S2H227	399862	15821	S2J004	429767	16984
S2H228	399760	15818	S2J005	429767	16988
S2H229	400009	15829	S2J006	430400	17041
S2H231	399943	15821	S2J007	430223	17024
S2H232	399964	15840	S2J008	430287	17042
S2H233	399825	15836	S2J009	430029	17033
S2H234	399754	15822	S2J010	430309	17042
S2H243	399799	15836	S2J011	430436	17046
S2H244	399733	15835	S2J012	430594	17054
S2H247	399749	15835	S2J013	429370	17007
S2H249	400041	15850	S2J014	429591	17016
S2H250	399040	15821	S2J015	429407	17007
S2H251	399283	15831	S2J016	429460	17011
S2H253	399387	15839	S2J101	415008	16410
S2H254	399329	15831	S2J102	414943	16414
S2H255	399284	15830	S2J103	414954	16430
S2H256	399186	15835	S2J104	414964	16411
S2H301	399478	16108	S2J105	415436	16456
S2H302	399369	16104	S2J106	414829	16399
S2H303	399543	16111	S2J107	414884	16401
S2H304	399608	16114	S2J108	415034	16417

Assembly	Total U (g)	U-235 (g)	Assembly	Total U (g)	U-235 (g)
S2J109	414976	16417	S2J308	400802	16103
S2J110	414919	16416	S2J309	400750	16132
S2J111	414821	16411	S2J310	400903	16151
S2J112	415076	16403	S2J311	401383	16166
S2J202	400968	15814	S2J312	401270	16156
S2J206	400987	15806	S2J313	401385	16154
S2J208	401066	15813	S2J314	401410	16154
S2J209	401056	15828	S2J315	401427	16155
S2J211	400853	15825	S2J316	401076	16139
S2J212	401047	15833	S2J401	400502	15832
S2J217	400712	15825	S2J404	400589	15835
S2J220	399905	15804	S2J406	400489	15836
S2J224	400532	15831	S2J407	400396	15842
S2J225	400504	15828	S2K001	429529	16993
S2J227	400389	15826	S2K002	430494	17082
S2J228	400471	15828	S2K003	430686	17110
S2J230	400912	15853	S2K004	430832	17095
S2J231	400743	15848	S2K005	430021	17014
S2J232	400668	15832	S2K006	430666	17107
S2J233	400433	15817	S2K007	429692	17015
S2J234	400266	15800	S2K008	429947	17014
S2J236	400464	15810	S2K011	430943	17206
S2J238	400482	15816	S2K012	430353	17041
S2J239	400962	15881	S2K013	429816	17050
S2J241	400866	15841	S2K016	430250	17090
S2J242	401044	15866	S2K102	415883	16497
S2J246	401015	15847	S2K104	415629	16477
S2J247	400690	15844	S2K110	416216	16480
S2J248	400667	15848	S2K112	415998	16525
S2J249	401261	15856	S2K201	401658	15977
S2J250	400652	15851	S2K202	402149	15943
S2J251	400724	15853	S2K203	401611	15956
S2J252	400761	15863	S2K204	401251	15867
S2J253	401196	15903	S2K205	400944	15889
S2J254	401307	15906	S2K206	401039	15872
S2J255	401335	15909	S2K207	400962	15865
S2J256	401146	15897	S2K208	401090	15930
S2J301	400523	16113	S2K209	401090	15923
S2J302	400529	16089	S2K210	400925	15844
S2J303	400742	16098	S2K211	401693	15942
S2J304	400413	16090	S2K212	401238	15905
S2J305	400558	16123	S2K213	401595	15948
S2J306	400737	16118	S2K214	401657	15943
S2J307	401031	16158	S2K215	400895	15889

Assembly	Total U (g)	U-235 (g)	Assembly	Total U (g)	U-235 (g)
S2K216	400933	15807	S2K312	400469	16149
S2K217	400676	15804	S2K313	401086	16058
S2K218	400996	15858	S2K314	400882	16125
S2K219	401003	15875	S2K315	401398	16185
S2K220	401092	15884	S2K316	401251	16081
S2K221	401145	15906	S2K401	401537	15940
S2K222	401475	15927	S2L006	440646	19768
S2K223	400835	15859	S2L007	440833	19778
S2K224	402190	16000	S2L008	440996	19790
S2K225	401938	15937	S2L015	440992	19805
S2K226	401489	15824	S2L201	438454	19537
S2K227	401452	15890	S2L202	438119	19499
S2K228	402012	15950	S2L203	438745	19537
S2K229	401055	15901	S2L204	438536	19521
S2K230	401244	15933	S2L205	439005	19553
S2K231	401756	15924	S2L206	439078	19538
S2K232	400983	15867	S2L207	438452	19487
S2K233	401046	15867	S2L208	438284	19443
S2K234	402131	15957	S2L209	438092	19382
S2K235	401812	15962	S2L210	438446	19434
S2K236	401872	15948	S2L211	438820	19507
S2K237	401261	15939	S2L212	438598	19498
S2K238	401887	15936	S2L301	437862	19439
S2K239	401897	15962	S2L302	437995	19493
S2K240	401298	15891	S2L303	438193	19520
S2K241	401056	15906	S2L304	438338	19523
S2K242	400611	15842	S2L305	438387	19521
S2K243	401780	16008	S2L306	437740	19448
S2K244	402374	15992	S2L307	438266	19452
S2K245	401944	15988	S2L308	438363	19453
S2K246	402019	15974	S2L309	438599	19420
S2K247	401641	15964	S2L310	438144	19411
S2K248	401285	15929	S2L311	438270	19447
S2K249	401765	15958	S2L312	438533	19476
S2K250	399634	15811	S2L313	437873	19443
S2K251	400819	15882	S2L314	438264	19449
S2K252	401955	15946	S2L315	437887	19430
S2K253	401591	15945	S2L316	437683	19422
S2K254	401535	15962	S2L317	437775	19424
S2K255	401769	16019	S2L318	437887	19425
S2K256	401845	16000	S2L319	438427	19439
S2K307	400969	16068	S2L320	437971	19457
S2K308	400720	16090	S2L401	437031	19336
S2K309	401594	16210	S2L402	436618	19302

Assembly	Total U (g)	U-235 (g)	Assembly	Total U (g)	U-235 (g)
S2L404	437162	19379	S2M014	439995	19123
S2L405	436878	19305	S2M015	439742	19104
S2L406	436486	19289	S2M016	440040	19105
S2L407	436482	19302	S2M201	438172	18798
S2L408	436766	19356	S2M202	438167	18798
S2L409	436902	19369	S2M203	437971	18780
S2L410	437006	19356	S2M204	437715	18765
S2L411	436815	19339	S2M205	437477	18809
S2L412	437265	19343	S2M206	437877	18830
S2L413	436905	19319	S2M207	437255	18798
S2L414	437254	19343	S2M208	437352	18816
S2L415	437459	19368	S2M301	436802	18825
S2L416	437506	19385	S2M302	436528	18800
S2L417	436532	19346	S2M303	437318	18813
S2L418	437162	19365	S2M304	436121	18706
S2L419	437234	19381	S2M305	436671	18744
S2L420	436072	19326	S2M306	437031	18737
S2L421	436634	19398	S2M307	436412	18793
S2L422	436096	19327	S2M311	436405	18726
S2L423	436590	19317	S2M312	436808	18771
S2L424	436210	19296	S2M313	437308	18795
S2L425	436632	19396	S2M314	437045	18830
S2L426	437157	19334	S2M315	436854	18822
S2L427	436710	19295	S2M316	436961	18802
S2L429	436969	19402	S2M501	434696	18633
S2L430	437167	19402	S2M504	435590	18668
S2L432	436976	19368	S2M505	436463	18698
S2L433	437741	19330	S2M506	436868	18687
S2L434	437605	19351	S2M507	437369	18729
S2L435	436961	19365	S2M508	436682	18736
S2L436	436908	19369	S2M509	436402	18729
S2M001	438629	19020	S2M510	436034	18665
S2M002	439052	19056	S2M512	435509	18620
S2M003	439422	19079	S2M513	435710	18628
S2M004	440002	19075	S2M514	435268	18644
S2M005	440187	19078	S2M515	434673	18627
S2M006	439382	19064	S2M516	435222	18648
S2M007	439976	19091	S2M517	436149	18689
S2M008	440068	19092	S2M519	436263	18692
S2M009	439179	19064	S2M520	434815	18601
S2M010	439687	19076	S2M521	434946	18591
S2M011	439544	19068	S2M522	436371	18710
S2M012	439400	19064	S2M523	436270	18743
S2M013	439591	19064	S2M524	435919	18668

Assembly	Total U (g)	U-235 (g)	Assembly	Total U (g)	U-235 (g)
S2M525	435885	18659	S2N015	438958	18250
S2M526	435086	18601	S2N016	438722	18245
S2M527	435576	18668	S2N201	437141	17952
S2M528	436385	18718	S2N202	436895	17946
S2M529	436566	18729	S2N203	436034	17940
S2M531	435543	18627	S2N204	436322	17955
S2M532	435031	18599	S2N205	436397	17945
S2M533	436729	18725	S2N206	436726	17982
S2M534	437051	18739	S2N207	436395	17953
S2M535	436802	18712	S2N208	435838	17929
S2M536	436218	18709	S2N209	435821	17897
S2M537	436470	18695	S2N210	436199	17937
S2M538	436753	18706	S2N211	436256	17932
S2M539	436397	18705	S2N212	436105	17925
S2M540	435994	18701	S2N213	436436	17948
S2M541	436047	18712	S2N214	436779	17950
S2M542	436161	18709	S2N215	436632	17948
S2M544	435889	18706	S2N216	436964	17965
S2M545	436536	18707	S2N301	435879	17925
S2M546	436935	18717	S2N305	436331	17931
S2M547	436686	18708	S2N306	436475	17937
S2M548	436144	18686	S2N307	437240	17970
S2M549	435204	18612	S2N308	436777	17937
S2M550	436343	18663	S2N309	436322	17933
S2M551	436965	18714	S2N310	436720	17943
S2M552	437079	18724	S2N312	437100	17942
S2M553	437000	18764	S2N313	436841	17943
S2M554	436881	18739	S2N315	436343	17925
S2M556	435846	18672	S2N401	435856	17869
S2M557	437632	18770	S2N402	435854	17861
S2M558	437566	18776	S2N403	434940	17853
S2M560	435485	18638	S2N404	435024	17847
S2N002	439606	18292	S2N405	435447	17860
S2N004	440288	18320	S2N406	436046	17855
S2N005	440422	18322	S2N407	436675	17873
S2N006	438965	18286	S2N408	436670	17889
S2N007	438563	18255	S2N501	434688	17791
S2N008	437829	18213	S2N502	434793	17811
S2N009	438322	18230	S2N503	434934	17807
S2N010	438511	18219	S2N504	434964	17801
S2N011	437704	18175	S2N505	435374	17833
S2N012	437195	18151	S2N506	435733	17852
S2N013	437137	18143	S2N507	435445	17825
S2N014	438491	18210	S2N508	435039	17800

Assembly	Total U (g)	U-235 (g)	Assembly	Total U (g)	U-235 (g)
S2N509	435214	17813	S2P201	437329	19490
S2N510	435588	17837	S2P202	437450	19491
S2N511	435638	17833	S2P203	437511	19476
S2N512	435250	17833	S2P204	437602	19476
S2N513	434802	17808	S2P205	437939	19503
S2N514	434888	17812	S2P206	437709	19494
S2N515	434985	17814	S2P207	437657	19482
S2N516	434829	17813	S2P208	437754	19488
S2N517	435052	17857	S2P401	437530	19456
S2N518	435153	17848	S2P402	437183	19438
S2N519	435082	17822	S2P403	437140	19435
S2N520	435062	17803	S2P404	437067	19420
S2N521	435474	17819	S2P405	437288	19443
S2N522	434526	17815	S2P406	436144	19378
S2N523	434275	17799	S2P407	436363	19372
S2N524	435588	17836	S2P408	436892	19426
S2N525	435235	17823	S2P409	436551	19414
S2N526	435465	17843	S2P410	437087	19443
S2N527	435746	17880	S2P411	437124	19455
S2N528	435269	17862	S2P412	436494	19419
S2N529	435380	17859	S2P413	436743	19420
S2N530	435680	17845	S2P414	437055	19434
S2N531	435527	17844	S2P415	437457	19454
S2N532	435726	17855	S2P416	437670	19462
S2N533	436135	17862	S2P417	438096	19460
S2N534	436024	17856	S2P418	437590	19438
S2N535	435807	17853	S2P419	437881	19447
S2N536	436246	17862	S2P420	437915	19452
S2P001	440651	19833	S2P421	437560	19464
S2P002	440481	19830	S2P422	438031	19474
S2P003	440246	19834	S2P423	437603	19442
S2P004	440048	19804	S2P424	437914	19462
S2P005	439880	19794	S2P425	436679	19405
S2P006	440532	19845	S2P426	437407	19444
S2P007	440153	19823	S2P427	437159	19432
S2P008	440737	19867	S2P428	437321	19435
S2P009	440697	19835	S2P429	436399	19420
S2P010	439963	19811	S2P430	436205	19400
S2P011	439543	19793	S2P431	436731	19429
S2P012	439797	19803	S2P432	436895	19430
S2P013	440369	19847	S2P433	437662	19463
S2P014	440600	19863	S2P434	437075	19432
S2P015	440727	19873	S2P435	436924	19401
S2P016	440426	19838	S2P436	436082	19372

Assembly	Total U (g)	U-235 (g)	Assembly	Total U (g)	U-235 (g)
S2P501	436052	19386	S2Q001	441350	19736
S2P502	435872	19377	S2Q002	441531	19744
S2P503	435812	19365	S2Q003	441395	19739
S2P504	436327	19391	S2Q004	440507	19662
S2P505	437285	19437	S2Q005	440605	19666
S2P506	437113	19446	S2Q006	440949	19704
S2P507	436638	19403	S2Q007	440526	19701
S2P508	437097	19437	S2Q008	440558	19705
S2P509	437273	19446	S2Q009	440707	19704
S2P510	436611	19395	S2Q010	440328	19657
S2P511	436206	19377	S2Q011	441416	19736
S2P512	436936	19419	S2Q012	440559	19704
S2P513	436745	19402	S2Q013	440308	19670
S2P514	437240	19438	S2Q014	439875	19643
S2P515	437367	19446	S2Q015	440875	19711
S2P516	437532	19440	S2Q016	440290	19673
S2P517	437515	19441	S2Q101	438377	19288
S2P518	437355	19429	S2Q102	438258	19283
S2P519	437962	19452	S2Q103	438521	19293
S2P520	437342	19428	S2Q104	438177	19283
S2P521	437421	19441	S2Q105	438384	19322
S2P522	437126	19436	S2Q106	438116	19287
S2P523	436327	19387	S2Q107	438118	19319
S2P524	437114	19430	S2Q108	438515	19330
S2P525	435996	19382	S2Q401	436918	19234
S2P526	437086	19436	S2Q402	437297	19245
S2P527	436863	19410	S2Q403	436681	19227
S2P528	437089	19420	S2Q404	436692	19229
S2P529	436940	19408	S2Q405	436856	19219
S2P530	437163	19416	S2Q406	436682	19210
S2P531	436583	19407	S2Q407	437123	19232
S2P532	436889	19414	S2Q408	437357	19241
S2P533	436691	19410	S2Q409	437278	19237
S2P534	437212	19423	S2Q410	437265	19227
S2P535	436633	19404	S2Q411	437523	19232
S2P536	437208	19417	S2Q412	437531	19245
S2P537	435905	19426	S2Q413	437232	19202
S2P538	436608	19423	S2Q414	437261	19204
S2P539	436322	19413	S2Q415	437312	19200
S2P540	436770	19405	S2Q416	437552	19213
S2P541	436235	19431	S2Q417	437397	19209
S2P542	436672	19464	S2Q418	436997	19201
S2P543	436418	19417	S2Q419	436858	19200
S2P544	436436	19434	S2Q420	436826	19195

Assembly	Total U (g)	U-235 (g)	Assembly	Total U (g)	U-235 (g)
S2Q501	436188	19206	S2Q545	435970	19188
S2Q502	436508	19218	S2Q546	435930	19183
S2Q503	436519	19209	S2Q547	437364	19260
S2Q504	436291	19195	S2Q548	437297	19249
S2Q505	436304	19196	S2Q549	436025	19191
S2Q506	436614	19217	S2Q550	435557	19167
S2Q507	436649	19185	S2Q551	436554	19207
S2Q508	436535	19184	S2Q552	436697	19213
S2Q509	436614	19203	S2Q553	436796	19215
S2Q510	436690	19218	S2Q554	436815	19215
S2Q511	436376	19181	S2Q555	436471	19216
S2Q512	436221	19174	S2Q556	436285	19211
S2Q513	436175	19188	S2R001	440495	19836
S2Q514	436150	19183	S2R002	440486	19823
S2Q515	436118	19169	S2R003	440353	19835
S2Q516	436298	19182	S2R004	440732	19851
S2Q517	435980	19175	S2R005	440678	19819
S2Q518	436030	19177	S2R006	440101	19825
S2Q519	435524	19165	S2R007	440899	19854
S2Q520	435635	19174	S2R008	440804	19845
S2Q521	436304	19235	S2R009	440389	19834
S2Q522	435882	19204	S2R010	440218	19866
S2Q523	436586	19241	S2R011	439807	19851
S2Q524	436544	19239	S2R012	440310	19884
S2Q525	436068	19191	S2R013	440333	19879
S2Q526	436014	19200	S2R014	440034	19861
S2Q527	436665	19183	S2R015	440048	19872
S2Q528	436162	19190	S2R016	440402	19886
S2Q529	436702	19201	S2R101	439312	19549
S2Q530	436886	19197	S2R102	439954	19585
S2Q531	436588	19218	S2R103	440018	19583
S2Q532	436643	19221	S2R104	439605	19562
S2Q533	436425	19203	S2R105	438605	19507
S2Q534	436497	19215	S2R106	438560	19524
S2Q535	436601	19181	S2R107	439145	19520
S2Q536	436684	19195	S2R108	438586	19525
S2Q537	436851	19223	S2R401	437177	19438
S2Q538	436420	19199	S2R402	436979	19427
S2Q539	436609	19225	S2R403	437160	19425
S2Q540	436392	19216	S2R404	437640	19440
S2Q541	436476	19215	S2R405	437261	19415
S2Q542	436282	19192	S2R406	437474	19435
S2Q543	436657	19214	S2R407	437113	19412
S2Q544	436708	19217	S2R408	437304	19430

Assembly	Total U (g)	U-235 (g)	Assembly	Total U (g)	U-235 (g)
S2R409	437367	19418	S2R541	437541	19430
S2R410	437282	19414	S2R542	437233	19421
S2R411	437252	19421	S2R543	437433	19427
S2R412	437145	19425	S2R544	437625	19435
S2R501	437655	19453	S2R545	437182	19417
S2R502	437704	19452	S2R546	436247	19376
S2R503	437540	19438	S2R547	437686	19422
S2R504	437622	19445	S2R548	437090	19392
S2R505	437322	19440	S2R549	437271	19405
S2R506	437060	19429	S2R550	438122	19452
S2R507	437007	19445	S2R551	437590	19449
S2R508	436549	19412	S2R552	436622	19419
S2R509	436342	19394	S2R553	436345	19390
S2R510	436287	19390	S2R554	436346	19397
S2R511	436123	19381	S2R555	436195	19399
S2R512	436369	19395	S2R556	436648	19382
S2R513	436872	19423	S2R557	436925	19371
S2R514	436302	19405	S2R558	437717	19409
S2R515	436594	19415	S2R559	436837	19365
S2R516	436388	19409	S2R560	436592	19377
S2R517	436638	19422	S2R561	436962	19427
S2R518	436506	19410	S2R562	436658	19389
S2R519	436823	19420	S2R563	436702	19395
S2R520	436456	19401	S2R564	436845	19398
S2R521	436550	19410	S2S001	441292	19935
S2R522	436303	19400	S2S002	440974	19954
S2R523	437137	19456	S2S003	441190	19963
S2R524	437525	19473	S2S004	440938	19951
S2R525	437363	19466	S2S005	441127	19910
S2R526	437115	19430	S2S006	441137	19904
S2R527	436941	19426	S2S007	441565	19924
S2R528	437212	19468	S2S008	440747	19902
S2R529	437084	19449	S2S101	438874	19559
S2R530	437138	19451	S2S102	439192	19591
S2R531	436815	19431	S2S103	439299	19595
S2R532	436174	19386	S2S104	439314	19605
S2R533	436278	19395	S2S105	438910	19587
S2R534	436507	19412	S2S106	439004	19598
S2R535	436770	19423	S2S107	438838	19589
S2R536	436734	19423	S2S108	438824	19589
S2R537	437018	19430	S2S301	437381	19496
S2R538	437179	19436	S2S302	437684	19494
S2R539	436536	19407	S2S303	437652	19504
S2R540	436549	19408	S2S304	437719	19514

Assembly	Total U (g)	U-235 (g)	Assembly	Total U (g)	U-235 (g)
S2S305	437675	19505	S2S525	437873	19480
S2S306	437829	19509	S2S526	437745	19468
S2S307	437664	19493	S2S527	437129	19432
S2S308	437374	19495	S2S528	437929	19467
S2S401	437071	19435	S2S529	437585	19450
S2S402	437148	19439	S2S530	437583	19451
S2S403	437001	19430	S2S531	437461	19455
S2S404	437123	19432	S2S532	436958	19423
S2S405	437112	19414	S2S533	437024	19427
S2S406	437296	19414	S2S534	436940	19424
S2S407	437374	19434	S2S535	437116	19444
S2S408	437494	19442	S2S536	437165	19445
S2S409	437707	19461	S2S537	437726	19474
S2S410	437652	19448	S2S538	437419	19458
S2S411	437399	19429	S2S539	437587	19449
S2S412	437149	19419	S2S540	436821	19393
S2S413	437308	19445	S2S541	437329	19419
S2S414	437305	19430	S2S542	437146	19422
S2S415	437367	19443	S2S543	437060	19446
S2S416	437060	19440	S2S544	437340	19469
S2S501	437456	19468	S2S545	437284	19472
S2S502	437270	19461	S2S546	436848	19431
S2S503	437238	19459	S2S547	436907	19440
S2S504	437233	19443	S2S548	437761	19464
S2S505	437250	19446	S2S549	436814	19434
S2S506	437301	19450	S2S550	436867	19440
S2S507	437644	19471	S2S551	437056	19446
S2S508	437936	19480	S2S552	437721	19449
S2S509	437950	19479	S2S553	437799	19450
S2S510	437793	19471	S2S554	437968	19461
S2S511	437452	19447	S2S555	437108	19448
S2S512	437666	19472	S2S556	437067	19448
S2S513	437416	19457	S2S557	437118	19442
S2S514	437583	19466	S2S558	437038	19436
S2S515	437490	19463	S2S559	437091	19446
S2S516	437620	19451	S2S560	437044	19437
S2S517	437295	19439	S2S561	437073	19447
S2S518	437104	19429	S2S562	437084	19433
S2S519	437687	19476	S2S563	436948	19402
S2S520	438209	19486	S2S564	437158	19437
S2S521	438223	19475	S2T001	440331	18564
S2S522	437679	19476	S2T002	440111	18536
S2S523	437791	19479	S2T003	439711	18509
S2S524	437788	19477	S2T004	439941	18517

Assembly	Total U (g)	U-235 (g)	Assembly	Total U (g)	U-235 (g)
S2T201	438249	18240	S2T509	436043	18080
S2T202	438171	18243	S2T510	436794	18114
S2T203	438014	18242	S2T511	436490	18071
S2T204	438148	18243	S2T512	436734	18088
S2T301	437913	18197	S2T513	436859	18098
S2T302	437537	18179	S2T514	436329	18079
S2T303	437634	18172	S2T515	435961	18078
S2T304	437648	18170	S2T516	436834	18111
S2T305	437788	18193	S2T517	436536	18107
S2T306	437953	18220	S2T518	436645	18115
S2T307	437732	18176	S2T519	437380	18131
S2T308	438304	18235	S2T520	437103	18112
S2T309	438143	18236	S2T521	436547	18076
S2T310	437630	18206	S2T522	437538	18147
S2T311	438127	18228	S2T523	437499	18127
S2T312	438348	18227	S2T524	437237	18129
S2T313	437941	18204	S2T525	436859	18087
S2T314	438226	18217	S2T526	436744	18083
S2T315	438407	18238	S2T527	436779	18095
S2T316	438435	18230	S2T528	436743	18088
S2T317	438023	18209	S2T529	436903	18104
S2T318	437959	18207	S2T530	436866	18113
S2T319	437854	18197	S2T531	437169	18093
S2T320	437907	18204	S2T532	436655	18095
S2T321	437474	18195	S2T533	436813	18123
S2T322	437619	18198	S2T534	437263	18138
S2T323	437564	18191	S2T535	436917	18146
S2T324	437902	18198	S2T536	436757	18165
S2T401	436556	18062	S2T537	437335	18136
S2T402	436728	18104	S2T538	436886	18151
S2T403	437166	18151	S2T539	436698	18165
S2T404	437157	18140	S2T540	436651	18153
S2T405	437375	18116	S2T541	436476	18113
S2T406	437346	18137	S2T542	436520	18090
S2T407	437283	18132	S2T543	436790	18102
S2T408	437352	18137	S2T544	436819	18096
S2T501	436643	18078	S2T545	436649	18098
S2T502	436495	18067	S2T546	436503	18098
S2T503	436520	18046	S2T547	436508	18101
S2T504	436236	18077	S2T548	436630	18143
S2T505	436211	18091	S2T549	437254	18103
S2T506	436250	18092	S2T550	437326	18124
S2T507	436224	18075	S2T551	437496	18135
S2T508	436039	18052	S2T552	437233	18104

Assembly	Total U (g)	U-235 (g)	Assembly	Total U (g)	U-235 (g)
S2T553	437294	18102	S2U405	436761	20087
S2T554	437221	18105	S2U406	436898	20097
S2T555	436916	18130	S2U407	437028	20099
S2T556	436751	18139	S2U408	437027	20099
S2T557	436501	18122	S2U501	436566	20086
S2T558	437086	18166	S2U502	436414	20066
S2T559	437283	18170	S2U503	436766	20075
S2T560	437179	18160	S2U504	437172	20079
S2TA01	442838	18641	S2U505	437140	20083
S2TA02	442978	18654	S2U506	437065	20077
S2TA03	443042	18661	S2U507	437697	20107
S2TA04	443175	18659	S2U508	437486	20097
S2TA05	441907	18318	S2U509	437372	20087
S2TA06	442550	18350	S2U510	436943	20078
S2TA07	442149	18330	S2U511	436813	20064
S2TA08	442323	18341	S2U512	437045	20094
S2U101	438183	20202	S2U513	436761	20056
S2U102	437476	20176	S2U514	436912	20061
S2U103	437515	20171	S2U515	436845	20071
S2U104	437472	20157	S2U516	437020	20120
S2U105	437950	20159	S2U517	437218	20118
S2U106	437886	20156	S2U518	437532	20123
S2U107	438347	20197	S2U519	437465	20102
S2U108	438047	20185	S2U520	437552	20107
S2U301	436649	20121	S2U521	437483	20107
S2U302	437431	20196	S2U522	437420	20120
S2U303	436477	20120	S2U523	436927	20111
S2U304	436868	20142	S2U524	436603	20118
S2U305	435990	20073	S2U525	437027	20104
S2U306	436309	20073	S2U526	437108	20102
S2U307	436420	20070	S2U527	437511	20115
S2U308	436659	20091	S2U528	436989	20097
S2U309	436505	20084	S2U529	436970	20119
S2U310	437146	20158	S2U530	437094	20133
S2U311	437442	20186	S2U531	437245	20105
S2U312	436223	20072	S2U532	437162	20120
S2U313	437161	20163	S2U533	437505	20107
S2U314	437017	20166	S2U534	437018	20115
S2U315	437343	20165	S2U535	436289	20108
S2U316	437070	20168	S2U536	436049	20096
S2U401	436959	20047	S2U537	435566	20036
S2U402	437470	20084	S2U538	437046	20094
S2U403	437632	20095	S2U539	436030	20044
S2U404	436956	20071	S2U540	436152	20064

Assembly	Total U (g)	U-235 (g)
S2U541	436790	20101
S2U542	436853	20103
S2U543	437203	20101
S2U544	437631	20156
S2U545	438252	20173
S2U546	437882	20153
S2U547	437318	20108
S2U548	436472	20032
S2U549	436427	20062
S2U550	436582	20069
S2U551	436301	20056
S2U552	436489	20077
S2U553	436569	20094
S2U554	436460	20062
S2U555	436901	20104
S2U556	437382	20171
S2U557	436286	20053
S2U558	436468	20074
S2U559	435451	20006
S2U560	435955	20044
S2UA01	442090	20385
S2UA02	442019	20375
S2UA03	442054	20387
S2UA04	442101	20354
S2UA05	442135	20412
S2UA06	441989	20376
S2UA07	442112	20376
S2UA08	442053	20382
S2UW01	437928	20205
S2UW02	437830	20204
S2UW03	437471	20179
S2UW04	437570	20187
S2UW05	437474	20180
S2UW06	437872	20174
S2UW07	437963	20178
S2UW08	438045	20182

6.2 UNIT 3

Assembly	Total U (g)	U-235 (g)
S3A008	427736	8038
S3A019	427871	8027
S3A021	426979	8020
S3A022	426207	8006
S3A023	426634	8010
S3A024	426317	8009
S3A026	426171	8008
S3A027	427343	8000
S3A029	427529	8027
S3A031	427461	8027
S3A032	426015	7993
S3A033	426248	8015
S3A034	426940	7993
S3A037	427239	8031
S3A038	427162	8021
S3A040	427397	8048
S3A041	427249	8025
S3A043	428572	8057
S3A045	428142	8073
S3A046	427795	8049
S3A047	428199	8039
S3A049	424631	7969
S3A052	426265	7999
S3A053	425852	7990
S3A054	428728	8083
S3A055	427293	8041
S3A057	428142	8076
S3A059	426225	8042
S3A060	427467	8070
S3A061	426886	8057
S3A062	426963	8060
S3A063	428382	8084
S3A064	427918	8062
S3A065	427579	8053
S3A066	426747	8042
S3A067	426578	8012
S3A068	428392	8084
S3A069	427083	8017
S3A071	427821	8022
S3B001	396447	9405
S3B003	395850	9389
S3B004	395825	9389
S3B005	396071	9396
S3B006	395466	9380
S3B007	396725	9410
S3B008	397185	9422
S3B009	397591	9431
S3B010	397082	9419
S3B011	397466	9428
S3B012	397645	9433
S3B013	397603	9432
S3B014	397590	9432
S3B015	397709	9434
S3B016	397091	9426
S3B018	398753	9470
S3B019	397878	9439
S3B020	397715	9435
S3B021	397051	9421
S3B022	397199	9434
S3B023	396817	9427
S3B024	397592	9443
S3B025	397181	9433
S3B026	397492	9441
S3B027	397995	9452
S3B028	397334	9436
S3B029	396600	9420
S3B030	397925	9451
S3B031	397042	9429
S3B032	396733	9420
S3B033	396833	9424
S3B034	397553	9437
S3B035	397572	9428
S3B036	398004	9437
S3B037	397597	9434
S3B038	395946	9400
S3B039	396506	9414
S3B040	396797	9422
S3B041	396324	9409
S3B042	395840	9397
S3B043	396123	9403

Assembly	Total U (g)	U-235 (g)
S3B045	396580	9415
S3B046	396493	9413
S3B047	396829	9420
S3B048	397622	9433
S3B049	395300	9366
S3B050	396896	9405
S3B052	396380	9391
S3B053	396564	9407
S3B054	397279	9416
S3B055	397827	9435
S3B056	396989	9414
S3B057	396861	9409
S3B060	396953	9408
S3B061	397251	9414
S3B062	397562	9426
S3B063	397691	9426
S3B067	398555	9452
S3B068	398129	9441
S3B069	398025	9439
S3B070	397947	9441
S3B071	398212	9442
S3B072	397931	9436
S3B074	399846	9497
S3B076	396063	9392
S3B077	399479	9487
S3B078	399226	9482
S3B079	396312	9398
S3B080	396780	9413
S3C001	425500	12276
S3C002	425379	12272
S3C003	425589	12292
S3C004	425849	12339
S3C005	425954	12291
S3C007	425608	12301
S3C009	425498	12337
S3C010	425854	12355
S3C011	426273	12365
S3C012	426788	12320
S3C013	426264	12337
S3C014	425788	12353
S3C015	428757	12366
S3C016	429935	12381
S3C017	429326	12363
S3C018	429236	12360
S3C020	428822	12348
S3C021	427032	12342
S3C022	427187	12335
S3C023	426461	12343
S3C024	427087	12344
S3C025	426812	12309
S3C026	429033	12359
S3C027	427866	12356
S3C028	427040	12347
S3C029	427961	12342
S3C030	427006	12324
S3C032	423577	12225
S3C033	425345	12274
S3C034	425148	12291
S3C035	427965	12324
S3C036	427432	12322
S3C037	424825	12260
S3C038	428790	12372
S3C039	425865	12353
S3C040	428247	12350
S3C101	405118	11694
S3C102	404286	11724
S3C103	404246	11722
S3C104	404104	11689
S3C105	404304	11709
S3C106	405989	11689
S3C107	406450	11706
S3C108	406833	11722
S3C201	398485	11492
S3C202	397460	11499
S3C203	399316	11497
S3C204	398884	11501
S3C207	398495	11489
S3C210	398119	11480
S3C212	397682	11468
S3C213	395396	11404
S3C216	395578	11409
S3D016	426222	14739
S3D018	426086	14734
S3D021	426476	14749
S3D026	426505	14752
S3D028	426326	14738

Assembly	Total U (g)	U-235 (g)
S3D029	426985	14759
S3D030	426981	14766
S3D031	426564	14772
S3D032	426288	14765
S3D034	426319	14739
S3D036	425867	14747
S3D040	426155	14750
S3D043	426010	14744
S3D045	426100	14743
S3D104	426492	11679
S3D105	424327	11634
S3D106	426754	11668
S3D108	426952	11673
S3D109	427307	11683
S3D110	427215	11681
S3D113	427257	11681
S3D114	427481	11688
S3E001	426366	16639
S3E003	427078	16665
S3E004	427334	16677
S3E005	427176	16669
S3E007	427030	16666
S3E008	426727	16641
S3E009	424938	16588
S3E014	427127	16680
S3E016	427064	16679
S3E017	427175	16684
S3E018	426563	16657
S3E019	424387	16571
S3E020	425384	16601
S3E025	425235	16595
S3E027	424702	16585
S3E028	424951	16591
S3E029	425850	16626
S3E030	425605	16601
S3E032	425901	16607
S3E033	427302	16671
S3E037	426784	16663
S3E038	426022	16633
S3E039	426287	16649
S3E102	421300	16439
S3E103	420684	16410
S3E104	419179	16347
S3E105	419421	16349
S3E106	419122	16345
S3E107	420874	16420
S3E108	419178	16359
S3E202	413047	13876
S3E205	412445	13857
S3E206	412207	13856
S3E207	410778	13815
S3E209	412818	13880
S3E211	413064	13879
S3E212	412007	13841
S3E213	411273	13823
S3E215	412319	13883
S3E216	411678	13858
S3E217	411873	13861
S3E218	413295	13917
S3E219	412475	13862
S3E221	413249	13902
S3E222	412310	13878
S3E225	410268	13806
S3E226	411573	13847
S3E227	412818	13902
S3E228	411529	13858
S3E301	398673	13413
S3E302	396970	13358
S3E303	397889	13376
S3E304	396222	13308
S3E305	396554	13321
S3E306	399825	13441
S3E307	396609	13324
S3E308	396362	13318
S3E309	396225	13308
S3E310	395904	13312
S3E311	396771	13347
S3E312	394950	13275
S3F002	429117	17000
S3F005	428839	16985
S3F006	427983	16969
S3F008	428598	16976
S3F010	428805	16976
S3F011	428456	16972
S3F012	428695	16961
S3F013	428741	16961

Assembly	Total U (g)	U-235 (g)
S3F015	427448	16918
S3F016	428655	16960
S3F101	414039	16374
S3F102	412406	16316
S3F103	412636	16324
S3F104	412859	16329
S3F107	413478	16350
S3F108	412506	16316
S3F109	411821	16279
S3F110	414359	16387
S3F111	414175	16383
S3F112	413994	16370
S3F201	398827	15754
S3F202	399008	15764
S3F203	398818	15755
S3F204	398760	15753
S3F206	399014	15762
S3F208	399120	15780
S3F209	399174	15790
S3F210	399236	15793
S3F211	399214	15792
S3F212	399283	15796
S3F213	398823	15774
S3F214	398227	15745
S3F215	398329	15751
S3F216	397771	15724
S3F218	397940	15732
S3F219	398198	15750
S3F220	398774	15758
S3F221	399935	15794
S3F222	400115	15800
S3F224	400549	15818
S3F225	399464	15774
S3F226	399832	15810
S3F227	399228	15791
S3F228	398891	15751
S3F231	399250	15808
S3F232	399426	15816
S3F233	399849	15832
S3F234	399797	15830
S3F235	399315	15811
S3F236	398531	15756
S3F239	398242	15728
S3F241	398318	15731
S3F242	397962	15719
S3F244	397486	15701
S3F245	398097	15720
S3F247	399163	15757
S3F248	399602	15774
S3F249	399044	15751
S3F250	398929	15748
S3F251	398388	15729
S3F252	398912	15746
S3F255	398370	15725
S3F256	398143	15716
S3F301	400124	16105
S3F302	400115	16106
S3F303	400061	16103
S3F304	400281	16112
S3F305	400375	16120
S3F306	400806	16141
S3F307	399320	16101
S3F308	398818	16095
S3F309	400283	16119
S3F310	399162	16097
S3F311	398624	16090
S3F312	397437	16054
S3F313	398444	16089
S3F314	399281	16110
S3F315	399825	16089
S3F316	399319	16099
S3F401	398225	15720
S3F402	399037	15756
S3F403	398139	15728
S3F404	397923	15721
S3F405	397279	15699
S3F406	397587	15721
S3F407	398562	15758
S3F408	398038	15730
S3G001	428572	16888
S3G003	428721	16895
S3G006	428821	16892
S3G101	413028	16327
S3G102	411825	16253
S3G104	411149	16281
S3G106	412873	16272

Assembly	Total U (g)	U-235 (g)
S3G107	413306	16296
S3G108	412265	16311
S3G109	411831	16307
S3G111	411960	16297
S3G201	399558	15711
S3G202	399715	15716
S3G205	398633	15756
S3G206	398956	15692
S3G209	398750	15682
S3G210	398741	15681
S3G211	398767	15682
S3G214	398732	15682
S3G215	398992	15692
S3G216	399011	15693
S3G217	398467	15688
S3G220	397978	15671
S3G221	397920	15668
S3G224	397967	15676
S3G225	397753	15664
S3G226	397499	15653
S3G227	398025	15667
S3G228	398644	15676
S3G229	397895	15656
S3G230	397996	15666
S3G232	399524	15719
S3G233	398445	15711
S3G234	398909	15731
S3G235	398112	15701
S3G236	398459	15705
S3G239	398939	15730
S3G241	398841	15728
S3G244	398022	15699
S3G245	398632	15702
S3G248	399118	15698
S3G251	397641	15665
S3G252	397972	15689
S3G254	397936	15670
S3G301	396942	15983
S3G302	398101	15996
S3G303	398765	15965
S3G304	397616	15944
S3G305	398609	16037
S3G306	397207	15990
S3G307	398704	16052
S3G308	397242	15997
S3G309	397531	15980
S3G310	397885	16023
S3G311	397994	15989
S3G312	398219	16027
S3G313	397207	15977
S3G314	397724	16008
S3G315	398960	16016
S3G316	398237	15965
S3G401	398012	15714
S3G402	398406	15746
S3G403	399022	15766
S3G404	397545	15690
S3G405	397978	15735
S3G406	397977	15733
S3G407	397366	15702
S3G408	398559	15710
S3H001	428427	16915
S3H002	428621	16923
S3H003	428460	16917
S3H012	427155	16911
S3H013	427982	16978
S3H014	428058	16940
S3H015	426796	16910
S3H016	427044	16918
S3H103	413881	16383
S3H105	413811	16383
S3H106	414028	16391
S3H107	413859	16382
S3H108	414169	16394
S3H110	414016	16389
S3H111	414315	16407
S3H112	414261	16406
S3H201	400139	15833
S3H202	399265	15771
S3H203	399353	15829
S3H204	399925	15818
S3H205	399452	15799
S3H209	398977	15788
S3H210	398986	15784
S3H211	399414	15811
S3H212	400100	15844

Assembly	Total U (g)	U-235 (g)
S3H213	400205	15849
S3H214	399643	15824
S3H216	399223	15819
S3H217	399261	15775
S3H218	399008	15788
S3H220	399725	15824
S3H221	398988	15789
S3H222	399183	15796
S3H223	398933	15795
S3H226	398513	15773
S3H230	399245	15778
S3H232	399026	15776
S3H237	399376	15792
S3H239	399271	15780
S3H244	399219	15773
S3H248	400069	15810
S3H249	400256	15818
S3H250	400188	15814
S3H251	400204	15813
S3H252	400290	15818
S3H253	400066	15808
S3H254	400004	15806
S3H255	399772	15794
S3H256	399335	15775
S3H301	398863	16065
S3H302	398670	16082
S3H303	399615	16113
S3H304	399381	16104
S3H305	398879	16060
S3H306	398992	16076
S3H307	398910	16073
S3H308	398966	16070
S3H309	399161	16084
S3H310	399120	16085
S3H311	399385	16121
S3H312	399136	16108
S3H313	398526	16014
S3H315	398422	16048
S3H316	398340	16046
S3H401	399653	15813
S3H402	399622	15812
S3H403	398777	15797
S3H404	398166	15700

Assembly	Total U (g)	U-235 (g)
S3H405	399418	15793
S3H406	399236	15796
S3H407	399069	15788
S3H408	398917	15782
S3J005	430090	17015
S3J006	429533	16979
S3J009	429623	16982
S3J010	429797	16989
S3J011	429437	16978
S3J012	429025	16968
S3J013	429118	16971
S3J014	428881	16969
S3J015	429031	16974
S3J106	414314	16330
S3J201	400896	15863
S3J202	401262	15880
S3J203	400924	15863
S3J204	401380	15863
S3J212	401007	15818
S3J215	402337	15874
S3J216	401999	15874
S3J217	401774	15873
S3J219	400893	15877
S3J221	401734	15881
S3J223	399857	15814
S3J225	400193	15799
S3J227	401916	15884
S3J228	401867	15883
S3J230	400626	15815
S3J233	400537	15818
S3J234	401372	15868
S3J236	402020	15868
S3J238	401638	15874
S3J239	400829	15888
S3J247	402196	15904
S3J248	402021	15902
S3J249	401746	15959
S3J251	401627	15873
S3J253	401478	15897
S3J254	401651	15866
S3J255	401526	15869
S3J256	399783	15771
S3J301	401739	16184

Assembly	Total U (g)	U-235 (g)
S3J302	400400	16101
S3J303	400466	16116
S3J304	401424	16128
S3J305	401803	16151
S3J306	401553	16144
S3J307	401339	16127
S3J308	400899	16133
S3J309	400687	16123
S3J310	400951	16121
S3J311	401212	16149
S3J312	401204	16159
S3J313	401084	16149
S3J314	400966	16138
S3J315	400251	16116
S3J316	400540	16130
S3J401	400163	15789
S3J402	401366	15848
S3J403	401230	15869
S3J404	401071	15860
S3J405	401711	15887
S3J406	402256	15895
S3J407	401742	15882
S3J408	401266	15908
S3K105	416585	16530
S3K106	417111	16562
S3K107	417075	16567
S3K108	416861	16530
S3K109	416480	16509
S3K110	416402	16483
S3K111	416114	16467
S3K112	416617	16486
S3K201	401291	15894
S3K202	401975	15937
S3K204	402093	15844
S3K205	401790	15850
S3K207	402430	15935
S3K208	400225	15807
S3K209	401484	15886
S3K211	399585	15823
S3K212	399530	15817
S3K213	401228	15904
S3K217	402803	15935
S3K218	401313	15910
S3K219	402411	15921
S3K220	402183	15928
S3K221	400238	15842
S3K222	401321	15890
S3K223	400783	15849
S3K224	400821	15851
S3K225	401327	15888
S3K226	401318	15872
S3K227	400959	15851
S3K228	401083	15883
S3K229	400582	15838
S3K230	401023	15878
S3K231	401220	15883
S3K232	401271	15901
S3K233	401842	15947
S3K234	401251	15902
S3K235	401366	15904
S3K238	402283	15933
S3K239	401531	15888
S3K240	400957	15896
S3K241	401618	15893
S3K243	402166	15942
S3K244	402249	15905
S3K246	402779	15931
S3K250	402459	15936
S3K252	402402	15958
S3K253	402618	15966
S3K254	401698	15881
S3K255	402228	15896
S3K256	399718	15779
S3K301	400943	16157
S3K302	401308	16188
S3K303	401613	16204
S3K304	401935	16224
S3K305	402231	16242
S3K306	401228	16160
S3K307	401358	16127
S3K308	401489	16130
S3K309	399817	16098
S3K310	401197	16150
S3K311	401130	16138
S3K312	401698	16198
S3K313	401065	16176

Assembly	Total U (g)	U-235 (g)
S3K314	401067	16124
S3K315	402236	16233
S3K316	401795	16213
S3L105	438341	19929
S3L115	437595	19896
S3L116	440041	20021
S3L201	438448	19937
S3L202	439942	19980
S3L203	437482	19900
S3L204	437705	19921
S3L205	438924	19950
S3L206	438335	19933
S3L207	438276	19940
S3L208	439651	20032
S3L301	438903	20003
S3L302	437546	19966
S3L304	439131	19937
S3L305	438169	19918
S3L306	438453	19943
S3L307	438021	19935
S3L308	438651	20002
S3L312	438719	19980
S3L313	438719	19986
S3L314	438400	19937
S3L315	438054	19926
S3L316	437305	19961
S3L401	436654	19888
S3L402	436861	19898
S3L403	437296	19891
S3L404	437434	19866
S3L405	436945	19801
S3L406	436364	19781
S3L407	436587	19809
S3L408	436743	19812
S3L409	436703	19821
S3L410	436193	19799
S3L411	436974	19813
S3L412	438221	19847
S3L413	437759	19852
S3L414	436436	19828
S3L415	436385	19818
S3L416	437065	19885
S3L417	437557	19887
S3L418	438278	19896
S3L419	438430	19895
S3L420	437449	19896
S3L421	437187	19886
S3L422	438828	19944
S3L423	438652	19936
S3L424	437797	19898
S3L425	437358	19881
S3L426	438014	19874
S3L427	438454	19874
S3L428	437886	19851
S3L429	438097	19863
S3L430	437587	19840
S3L431	437366	19857
S3L432	437631	19880
S3L433	437265	19844
S3L434	438292	19829
S3L435	438077	19828
S3L436	436397	19773
S3L437	437371	19820
S3L438	437086	19823
S3L439	438646	19937
S3L440	438520	19937
S3L441	438200	19901
S3L442	436714	19775
S3L443	436269	19722
S3L444	436618	19797
S3M001	439764	19005
S3M005	439336	18900
S3M007	440312	18912
S3M008	440639	18923
S3M009	440425	18911
S3M010	440691	18929
S3M011	440809	18937
S3M014	439669	18910
S3M101	439579	18636
S3M102	439277	18628
S3M103	439133	18631
S3M105	439017	18623
S3M106	438077	18638
S3M107	438838	18639
S3M401	436990	18483
S3M402	436977	18484

Assembly	Total U (g)	U-235 (g)
S3M403	436929	18482
S3M404	437437	18504
S3M405	437178	18478
S3M406	437118	18469
S3M407	437167	18485
S3M408	437288	18499
S3M501	436797	18481
S3M502	436697	18481
S3M503	436560	18478
S3M504	436496	18485
S3M505	436511	18500
S3M506	436790	18479
S3M507	436718	18488
S3M508	437244	18519
S3M509	437343	18535
S3M510	437165	18526
S3M511	437020	18519
S3M512	437321	18525
S3M513	437159	18505
S3M514	435877	18456
S3M515	436176	18470
S3M516	437449	18505
S3M517	437612	18518
S3M519	436644	18484
S3M520	437439	18506
S3M521	436592	18489
S3M522	437131	18498
S3M523	437652	18507
S3M524	436712	18447
S3M525	436534	18436
S3M526	436142	18427
S3M527	435906	18407
S3M528	436784	18433
S3M529	436904	18434
S3M531	436620	18415
S3M532	436242	18407
S3M536	436765	18453
S3M538	436163	18414
S3M539	435838	18391
S3M540	436805	18435
S3M541	436868	18436
S3M542	435339	18366
S3M544	436568	18432
S3M545	436577	18497
S3M546	436693	18493
S3M547	437005	18468
S3M550	436269	18444
S3M551	437304	18484
S3M552	436287	18439
S3M553	435721	18420
S3M556	436178	18414
S3M557	436158	18418
S3M558	436108	18395
S3M559	435462	18369
S3M561	436102	18421
S3M562	436523	18413
S3M563	436435	18394
S3M564	436311	18422
S3M565	437391	18497
S3M566	436948	18433
S3M567	437542	18503
S3M568	437753	18519
S3N001	440103	20002
S3N002	439841	19988
S3N003	439291	19979
S3N004	439986	19996
S3N005	439320	19982
S3N006	439439	19986
S3N007	439218	19982
S3N008	439214	19980
S3N009	439932	19994
S3N010	439865	19990
S3N011	439820	19992
S3N012	440263	20006
S3N013	439341	19983
S3N014	439426	19982
S3N015	439645	19986
S3N016	440171	20022
S3N101	438371	19700
S3N102	438414	19722
S3N103	438565	19734
S3N104	438904	19745
S3N105	438054	19670
S3N106	438751	19748
S3N108	438131	19681
S3N301	437148	19648

Assembly	Total U (g)	U-235 (g)
S3N302	437433	19670
S3N303	437502	19664
S3N304	437410	19668
S3N401	436370	19539
S3N402	436473	19543
S3N403	436430	19542
S3N404	436748	19566
S3N405	437300	19610
S3N406	437488	19623
S3N407	437978	19649
S3N408	438004	19631
S3N409	437436	19609
S3N410	437211	19597
S3N411	437780	19612
S3N412	437789	19611
S3N501	436971	19603
S3N503	436514	19591
S3N505	436634	19588
S3N506	436368	19560
S3N507	436453	19544
S3N508	436460	19553
S3N509	436485	19549
S3N510	436571	19558
S3N511	436357	19542
S3N512	436627	19549
S3N513	436508	19543
S3N514	436695	19551
S3N516	436219	19557
S3N517	436044	19531
S3N518	436066	19554
S3N519	435859	19558
S3N520	436076	19566
S3N521	435849	19551
S3N522	435782	19551
S3N523	436484	19577
S3N524	436260	19580
S3N525	436674	19583
S3N526	436685	19581
S3N527	436919	19597
S3N528	436882	19595
S3N529	436075	19544
S3N530	436297	19561
S3N531	436144	19545
S3N532	435939	19534
S3N533	435594	19518
S3N534	435910	19535
S3N535	436276	19578
S3N536	436204	19552
S3N537	435949	19553
S3N538	435450	19520
S3N541	436988	19579
S3N543	435306	19516
S3N544	435553	19529
S3N546	435638	19556
S3N547	436092	19584
S3N548	435487	19545
S3N549	436013	19575
S3N551	435196	19510
S3N552	435129	19519
S3N553	435018	19521
S3N555	435068	19520
S3N556	434669	19538
S3N557	434305	19525
S3N558	434615	19554
S3N559	434920	19570
S3N560	435298	19577
S3P001	440928	19430
S3P002	439977	19358
S3P003	440142	19378
S3P004	440885	19434
S3P005	441104	19442
S3P006	441129	19445
S3P007	440783	19420
S3P008	440147	19377
S3P101	437507	19080
S3P102	437536	19082
S3P103	437487	19079
S3P104	437657	19098
S3P105	437928	19124
S3P106	437708	19114
S3P107	437877	19121
S3P108	437593	19108
S3P201	438163	19098
S3P202	437674	19065
S3P203	437949	19083
S3P204	438100	19089

Assembly	Total U (g)	U-235 (g)
S3P205	438350	19114
S3P206	438123	19108
S3P207	437975	19093
S3P208	437921	19087
S3P209	437556	19068
S3P210	438415	19116
S3P211	438505	19118
S3P212	438363	19121
S3P213	438479	19138
S3P214	437557	19053
S3P215	438069	19102
S3P216	437786	19086
S3P401	436302	18944
S3P402	437178	18994
S3P403	437099	19003
S3P404	436788	18957
S3P405	436516	18947
S3P406	437190	18999
S3P407	437355	19005
S3P408	437260	19001
S3P501	436469	18954
S3P502	436394	18949
S3P503	436276	18947
S3P504	436446	18963
S3P505	436439	18997
S3P506	436603	19005
S3P507	436342	18987
S3P508	436159	18954
S3P509	436407	18979
S3P510	436221	18944
S3P511	436070	18935
S3P512	435846	18920
S3P513	436779	18985
S3P514	436599	18979
S3P515	436953	19003
S3P516	436978	18997
S3P517	437268	19015
S3P518	437341	19020
S3P519	437121	19024
S3P520	437264	19023
S3P521	437273	19045
S3P522	437383	19048
S3P523	437231	19016
S3P524	436118	18923
S3P525	437110	18980
S3P526	436858	18954
S3P527	437007	19006
S3P528	437374	19039
S3P529	436953	18978
S3P530	436871	18968
S3P531	435843	18956
S3P532	436782	18998
S3P533	436880	18996
S3P534	436546	18982
S3P535	435695	18911
S3P536	435594	18923
S3P537	435743	18916
S3P538	435561	18908
S3P539	435411	18951
S3P540	435611	18962
S3P541	435818	18953
S3P542	436245	18939
S3P543	435997	18971
S3P544	435964	18967
S3P545	435990	18956
S3P546	435576	18915
S3P547	435708	18920
S3P548	436034	18960
S3P549	435819	18928
S3P550	436000	18935
S3P551	435823	18924
S3P552	435838	18928
S3P553	435836	18931
S3P554	435884	18944
S3P555	436041	18968
S3P556	436230	18978
S3P557	436298	18936
S3P558	435780	18925
S3P559	436330	18927
S3P560	436292	18953
S3Q001	440336	19834
S3Q002	439973	19823
S3Q003	440088	19828
S3Q004	439875	19834
S3Q005	440107	19836
S3Q006	440044	19829

Assembly	Total U (g)	U-235 (g)
S3Q007	440263	19829
S3Q008	440848	19854
S3Q101	437842	19514
S3Q102	438630	19532
S3Q103	438228	19527
S3Q104	438930	19540
S3Q105	438046	19522
S3Q106	438596	19527
S3Q107	438729	19535
S3Q108	438672	19532
S3Q201	437086	19479
S3Q202	437662	19499
S3Q203	437384	19489
S3Q204	438383	19528
S3Q205	437069	19490
S3Q206	437560	19512
S3Q207	438334	19526
S3Q208	438373	19528
S3Q209	437493	19504
S3Q210	437264	19486
S3Q211	437185	19482
S3Q212	437192	19493
S3Q213	437197	19495
S3Q214	438220	19526
S3Q215	437511	19504
S3Q216	437712	19505
S3Q301	436290	19450
S3Q302	436703	19471
S3Q303	436693	19467
S3Q304	436949	19518
S3Q305	437247	19523
S3Q306	436834	19512
S3Q307	436862	19506
S3Q308	436900	19490
S3Q401	436731	19412
S3Q402	436645	19405
S3Q403	436765	19385
S3Q404	436965	19421
S3Q405	436944	19393
S3Q406	436964	19382
S3Q407	436588	19379
S3Q408	436573	19400
S3Q501	436348	19366
S3Q502	436319	19370
S3Q503	436327	19336
S3Q504	436344	19331
S3Q505	436208	19321
S3Q506	436815	19376
S3Q507	436360	19331
S3Q508	436977	19437
S3Q509	436926	19444
S3Q510	437589	19460
S3Q511	437371	19449
S3Q512	437569	19460
S3Q513	436992	19438
S3Q514	436905	19439
S3Q515	436873	19438
S3Q516	436820	19439
S3Q517	436662	19450
S3Q518	436483	19400
S3Q519	436213	19387
S3Q520	436772	19400
S3Q521	436948	19401
S3Q522	436861	19399
S3Q523	436807	19379
S3Q524	436793	19422
S3Q525	436557	19429
S3Q526	436902	19384
S3Q527	436772	19419
S3Q528	436643	19384
S3Q529	436483	19384
S3Q530	436895	19394
S3Q531	436426	19399
S3Q532	436235	19391
S3Q533	436196	19383
S3Q534	435800	19365
S3Q535	435877	19368
S3Q536	435723	19371
S3Q537	436493	19426
S3Q538	435762	19365
S3Q539	435494	19350
S3Q540	435637	19357
S3Q541	436217	19413
S3Q542	436622	19403
S3Q543	436707	19405
S3Q544	436830	19423

Assembly	Total U (g)	U-235 (g)
S3Q545	437101	19428
S3Q546	436900	19457
S3Q547	436627	19445
S3Q548	436688	19442
S3Q549	436671	19439
S3Q550	436747	19408
S3Q551	437455	19460
S3Q552	437158	19446
S3R001	439933	20342
S3R002	440077	20348
S3R003	439553	20337
S3R004	438527	20334
S3R005	439100	20366
S3R006	438807	20351
S3R007	439619	20362
S3R008	440473	20378
S3R101	438345	20080
S3R102	438714	20101
S3R103	438899	20087
S3R104	438486	20056
S3R105	438500	20073
S3R106	438612	20065
S3R107	438841	20088
S3R108	438757	20090
S3R301	437689	20015
S3R302	438072	20035
S3R303	438441	20061
S3R304	438228	20053
S3R305	438332	20068
S3R306	438545	20076
S3R307	438229	20073
S3R308	437176	20037
S3R309	437146	20036
S3R310	436980	20028
S3R311	437423	20039
S3R312	436544	20008
S3R401	436676	19932
S3R402	436936	19941
S3R403	436763	19935
S3R404	436817	19936
S3R405	437263	19943
S3R406	437549	19950
S3R407	437523	19956
S3R408	437174	19942
S3R409	437178	19953
S3R410	437084	19942
S3R411	437083	19952
S3R412	437323	19947
S3R501	436953	19949
S3R502	437047	19934
S3R503	437098	19916
S3R504	437130	19918
S3R505	436683	19913
S3R506	437146	19915
S3R507	436464	19906
S3R508	436583	19914
S3R509	436420	19896
S3R510	436722	19914
S3R511	436876	19906
S3R512	436461	19904
S3R513	436306	19891
S3R514	436241	19899
S3R515	435568	19854
S3R516	435427	19850
S3R517	435452	19850
S3R518	436265	19875
S3R519	436074	19868
S3R520	436262	19888
S3R521	436450	19888
S3R522	436751	19912
S3R523	436497	19905
S3R524	436646	19903
S3R525	436722	19903
S3R526	436505	19890
S3R527	435793	19837
S3R528	436477	19893
S3R529	436293	19896
S3R530	435156	19815
S3R531	434983	19835
S3R532	435654	19831
S3R533	435309	19818
S3R534	434772	19821
S3R535	434679	19848
S3R536	435399	19862
S3R537	437471	19960
S3R538	435695	19889

Assembly	Total U (g)	U-235 (g)
S3R539	434266	19828
S3R540	435133	19867
S3R541	435177	19861
S3R542	435218	19850
S3R543	435643	19885
S3R544	435631	19831
S3R545	436316	19914
S3R546	436027	19865
S3R547	435791	19897
S3R548	435656	19883
S3R549	436508	19907
S3R550	436373	19879
S3R551	435529	19876
S3R552	436007	19879
S3R553	436107	19882
S3R554	434777	19835
S3R555	435378	19866
S3R556	435344	19877
S3R557	437261	19943
S3R558	437047	19933
S3R559	436578	19915
S3R560	436716	19915
S3S001	440390	19229
S3S002	439885	19212
S3S003	440431	19231
S3S004	440421	19231
S3S005	439660	19202
S3S006	440173	19222
S3S007	440405	19241
S3S008	439725	19206
S3S101	437238	18847
S3S102	437655	18863
S3S103	437205	18855
S3S104	437086	18849
S3S105	437718	18869
S3S106	437639	18877
S3S107	438547	18926
S3S108	438615	18930
S3S201	438115	18894
S3S202	437715	18873
S3S203	437606	18861
S3S204	437347	18849
S3S205	437784	18861
S3S206	437633	18853
S3S207	438109	18899
S3S208	438044	18896
S3S209	438510	18919
S3S210	438334	18911
S3S211	437781	18883
S3S212	437980	18890
S3S301	436954	18829
S3S302	436501	18809
S3S303	436908	18827
S3S304	437769	18868
S3S305	437362	18849
S3S306	437443	18852
S3S307	436810	18836
S3S308	437266	18850
S3S309	437505	18858
S3S310	436355	18819
S3S311	436432	18823
S3S312	436271	18816
S3S401	436192	18749
S3S402	436132	18745
S3S403	435867	18720
S3S404	436331	18755
S3S405	436384	18757
S3S406	436698	18756
S3S407	435582	18706
S3S408	436476	18747
S3S409	437746	18818
S3S410	437094	18789
S3S411	436916	18777
S3S412	437632	18807
S3S501	437499	18814
S3S502	437427	18807
S3S503	437465	18806
S3S504	437035	18775
S3S505	437051	18788
S3S506	437163	18790
S3S507	437085	18780
S3S508	437182	18786
S3S509	436879	18775
S3S510	436939	18777
S3S511	437001	18783
S3S512	436912	18776

Assembly	Total U (g)	U-235 (g)
S3S513	437481	18816
S3S514	437528	18820
S3S515	437230	18801
S3S516	437156	18781
S3S517	437149	18792
S3S518	437961	18824
S3S519	437758	18813
S3S520	437845	18800
S3S521	438141	18788
S3S522	438032	18814
S3S523	438080	18824
S3S524	438166	18822
S3S525	436639	18755
S3S526	436923	18795
S3S527	437777	18852
S3S528	437432	18798
S3S529	437589	18828
S3S530	437520	18826
S3S531	436673	18790
S3S532	436642	18787
S3S533	436865	18793
S3S534	437523	18838
S3S535	437872	18857
S3S536	437633	18799
S3S537	437551	18796
S3S538	437313	18768
S3S539	437144	18777
S3S540	436912	18800
S3S541	436537	18780
S3S542	437012	18785
S3S543	436465	18767
S3S544	436072	18742
S3S545	437156	18779
S3S546	437056	18777
S3S547	436553	18751
S3S548	436440	18740
S3S549	436121	18738
S3S550	435900	18735
S3S551	436634	18749
S3S552	436623	18745
S3S553	436249	18733
S3S554	436032	18737
S3S555	436238	18742
S3S556	436341	18747
S3T001	441010	19875
S3T002	441239	19887
S3T003	441045	19878
S3T004	441082	19879
S3T101	438062	19519
S3T102	438395	19525
S3T103	438542	19531
S3T104	438410	19526
S3T201	438076	19553
S3T202	438225	19545
S3T203	438212	19546
S3T204	437928	19528
S3T205	437969	19519
S3T206	438090	19533
S3T207	438061	19535
S3T208	437978	19549
S3T301	437240	19532
S3T302	437638	19544
S3T303	437400	19538
S3T304	437422	19546
S3T305	437338	19540
S3T306	437426	19547
S3T307	437304	19550
S3T308	437736	19553
S3T309	436858	19520
S3T310	437390	19527
S3T311	437404	19518
S3T312	437631	19537
S3T401	436955	19491
S3T402	436983	19492
S3T403	436908	19491
S3T404	437011	19498
S3T405	436955	19489
S3T406	436911	19479
S3T407	436559	19469
S3T408	436832	19478
S3T409	437248	19497
S3T410	437179	19500
S3T411	437095	19495
S3T412	436693	19472
S3T501	436563	19418
S3T502	436633	19431

Assembly	Total U (g)	U-235 (g)
S3T503	436329	19418
S3T504	436600	19437
S3T505	436839	19461
S3T506	436590	19439
S3T507	435844	19399
S3T508	435820	19401
S3T509	435844	19401
S3T510	437068	19477
S3T511	437396	19474
S3T512	437904	19491
S3T513	437251	19439
S3T514	436477	19412
S3T515	436047	19403
S3T516	436554	19424
S3T517	437165	19439
S3T518	437232	19441
S3T519	437230	19435
S3T520	437235	19434
S3T521	436338	19392
S3T522	436662	19415
S3T523	436489	19412
S3T524	436053	19377
S3T525	436011	19412
S3T526	436279	19422
S3T527	436659	19430
S3T528	436289	19418
S3T529	436544	19431
S3T530	436554	19422
S3T531	436682	19420
S3T532	436561	19436
S3T533	436264	19424
S3T534	436439	19435
S3T535	436783	19454
S3T536	436666	19446
S3T537	436823	19472
S3T538	436910	19465
S3T539	437117	19466
S3T540	436411	19446
S3T541	436428	19428
S3T542	436697	19445
S3T543	437044	19481
S3T544	437084	19467
S3T545	437106	19460
S3T546	436822	19479
S3T547	436732	19472
S3T548	436941	19484
S3T549	437039	19450
S3T550	436734	19427
S3T551	436757	19423
S3T552	436290	19418
S3T553	436402	19424
S3T554	436395	19418
S3T555	436634	19444
S3T556	436694	19430
S3T557	436748	19428
S3T558	436668	19441
S3T559	436632	19435
S3T560	436595	19431
S3T601	439387	19810
S3T602	439657	19812
S3T603	439130	19787
S3T604	439291	19794
S3T701	439410	19543
S3T702	438973	19523
S3T703	439224	19531
S3T704	439233	19536

Attachment B

ORIGEN-ARP/ORIGEN-S input files

(Pages B2 through B4 of the original document)

```
'This SCALE input file was generated by
'OrigenArp Version  6.0.13.12 January 12, 2010
=arp
ce16x16     Use the cross section library provided with the SCALE 6 package
4.51        Assembly average enrichment for the limiting assembly
2           Two cycles of irradiation
698.5131    First cycle irradiation time, days
698.5131    Second cycle irradiation time, days
35.98       First cycle specific power, MW/MTU
35.98       Second cycle specific power, MW/MTU
1
1
0.71        Moderator density, g/cc
ft33f001
end
#origens
0$$ a4 33 a11 71 e t
ce16x16
3$$ 33 a3 1 27 a16 2 a33 18 e t
35$$ 0 t
56$$ 10 10 a6 3 a10 0 a13 13 a15 3 a18 1 e
57** 0 a3 1e-05 0.5 e
95$$ 0 t
Cycle 1 Part 1 -Bounding    ORIGEN-S input for first cycle, 10 time steps
0.440333 MTU    Uranium loading, MTU
58** 15.84318 15.84318 15.84318 15.84318 15.84318 15.84318 15.84318
 15.84318 15.84318 15.84318    Assembly power(MW) for each time step
60** 69.85131 139.7026 209.5539 279.4052 349.2565 419.1078 488.9591
 558.8105 628.6618 698.5131    Cumulative irradiation time (days) at end of each time step
66$$ a1 2 a5 2 a9 2 e
73$$ 922340 922350 922360 922380 80000 240000 250000 260000 270000
 280000 400000 410000 500000 Nuclide ID (U-234. U-235. U-236. U-238. O. Cr. Mn. Fe. Co. Ni. Zr. Nb. Sn)
74** 176.7453 19859.02 91.35148 420205.9 97.8 2301.8 106 4459.5 32.9
 4371.5 100750.5 327.2 1646.4    Nuclide concentration (grams/assembly) for nuclide ID listed above
75$$ 2 2 2 2 4 4 4 4 4 4 4 4 4    Library type for each nuclide ID listed above (2 - fuel, 4 - light elements)
t
ce16x16
3$$ 33 a3 2 27 a33 18 e t
35$$ 0 t
56$$ 10 10 a10 10 a15 3 a18 1 e
57** 698.5131 a3 1e-05 0.5 e
95$$ 0 t
Cycle 1 Part 2 -Bounding    ORIGEN-S input for second cycle, 10 time steps.
0.440333 MTU
58** 15.84318 15.84318 15.84318 15.84318 15.84318 15.84318 15.84318
 15.84318 15.84318 15.84318    Assembly power(MW) for each time step
60** 768.3644 838.2157 908.067 977.9183 1047.77 1117.621 1187.472
 1257.324 1327.175 1397.026    Cumulative irradiation time (days) at end of each time step
66$$ a1 2 a5 2 a9 2 e t
54$$ a8 1 a11 0  e
56$$ a2 8 a6 1 a10 10 a14 5 a15 3 a17 2 e
57** 0 a3 1e-05 e
95$$ 0 t
Cycle 1 Down - Bounding    ORIGEN-S input for first decay case, from 0 days to 1.42 years
0.440333 MTU
60** 0.001 0.003 0.01 0.03 0.1 0.3 1 1.42    Cumulative decay time, years
61** f0
65$$
'Gram-Atoms   Grams   Curies   Watts-All   Watts-Gamma
 3z   3z   1   0   0   1   0   0   3z   6z
```

```
 3z    3z    1    0    0    1    0    0    3z    6z
 3z    3z    1    0    0    1    0    0    3z    6z
81$$ 2 0 26 1 a7 200 e
82$$ 2 2 2 2 2 2 2 2 e
83**  Gamma energy group structure, in eV and descending order
 1.0000000e+07 8.0000000e+06 6.5000000e+06 5.0000000e+06 4.0000000e+06
 3.0000000e+06 2.5000000e+06 2.0000000e+06 1.6600000e+06 1.3300000e+06
 1.0000000e+06 8.0000000e+05 6.0000000e+05 4.0000000e+05 3.0000000e+05
 2.0000000e+05 1.0000000e+05 5.0000000e+04 1.0000000e+04 e
84**  Neutron energy group structure, in eV and descending order
 2.0000000e+07 6.4340000e+06 3.0000000e+06 1.8500000e+06
 1.4000000e+06 9.0000000e+05 4.0000000e+05 1.0000000e+05 1.7000000e+04
 3.0000000e+03 5.5000000e+02 1.0000000e+02 3.0000000e+01 1.0000000e+01
 3.0499900e+00 1.7700000e+00 1.2999900e+00 1.1299900e+00 1.0000000e+00
 8.0000000e-01 4.0000000e-01 3.2500000e-01 2.2500000e-01 9.9999850e-02
 5.0000000e-02 3.0000000e-02 9.9999980e-03 1.0000000e-05 e
t
56$$ 0 0 a10  1 e t
56$$ 0 0 a10  2 e t
56$$ 0 0 a10  3 e t
56$$ 0 0 a10  4 e t
56$$ 0 0 a10  5 e t
56$$ 0 0 a10  6 e t
56$$ 0 0 a10  7 e t
56$$ 0 0 a10  8 e t
54$$ a8 1 a11 0  e
56$$ a2 9 a6 1 a10 8 a14 5 a15 3 a17 2 e
57** 1.42 a3 1e-05 e
95$$ 0 t
Case 4        ORIGEN-S input for the second decay case, continued from the first decay case, up to 4.93 years
0.440333 MTU
60** 1.76 2.09 2.42 2.76 3.09 3.42 3.92 4.42 4.93   Cumulative decay time, years
61** f0
65$$
'Gram-Atoms   Grams   Curies   Watts-All   Watts-Gamma
 3z    3z    1    0    0    1    0    0    3z    6z
 3z    3z    1    0    0    1    0    0    3z    6z
 3z    3z    1    0    0    1    0    0    3z    6z
81$$ 2 0 26 1 a7 200 e
82$$ 2 2 2 2 2 2 2 2 e
83**  Gamma energy group structure, in eV and descending order
 1.0000000e+07 8.0000000e+06 6.5000000e+06 5.0000000e+06 4.0000000e+06
 3.0000000e+06 2.5000000e+06 2.0000000e+06 1.6600000e+06 1.3300000e+06
 1.0000000e+06 8.0000000e+05 6.0000000e+05 4.0000000e+05 3.0000000e+05
 2.0000000e+05 1.0000000e+05 5.0000000e+04 1.0000000e+04 e
84**  Neutron energy group structure, in eV and descending order
 2.0000000e+07 6.4340000e+06 3.0000000e+06 1.8500000e+06
 1.4000000e+06 9.0000000e+05 4.0000000e+05 1.0000000e+05 1.7000000e+04
 3.0000000e+03 5.5000000e+02 1.0000000e+02 3.0000000e+01 1.0000000e+01
 3.0499900e+00 1.7700000e+00 1.2999900e+00 1.1299900e+00 1.0000000e+00
 8.0000000e-01 4.0000000e-01 3.2500000e-01 2.2500000e-01 9.9999850e-02
 5.0000000e-02 3.0000000e-02 9.9999980e-03 1.0000000e-05 e
t
56$$ 0 0 a10  1 e t
56$$ 0 0 a10  2 e t
56$$ 0 0 a10  3 e t
56$$ 0 0 a10  4 e t
56$$ 0 0 a10  5 e t
56$$ 0 0 a10  6 e t
56$$ 0 0 a10  7 e t
```

```
56$$ 0 0 a10  8 e t
56$$ 0 0 a10  9 e t
56$$ f0 t
end
#shell
copy ft71f001 "D:\San Onofre\Source Term\ORIGEN Runs\bounding.f71"
del ft71f001
end
```

ENCLOSURE 2

Modified Exemption Table

Emergency Planning Exemption Request

San Onofre Nuclear Generating Station

Table 1, Exemption Requests

Regulation	Basis for Change
1. §50.47(b): The onsite ~~and, except as provided in paragraph (d) of this section, offsite~~ emergency response plans for nuclear power reactors must meet the following standards:	Generic Background Considerations In the Statement of Considerations for the Final Rule for EP requirements for ISFSIs and for monitor retrievable storage installation (MRS) facilities (60 FR 32430; June 22, 1995), the Commission responded to comments concerning offsite emergency planning for ISFSIs or an MRS and concluded that, "the offsite consequences of potential accidents at an ISFSI or a MRS ~~[monitor retrievable storage installation]~~ would not warrant establishing Emergency Planning Zones." In a nuclear power reactor's permanently defueled state, the accident risks are more similar to an ISFSI or MRS than an operating nuclear power plant. The draft proposed rulemaking in SECY-00-0145 suggested that after at least one year of spent fuel decay time, the decommissioning licensee would be able to reduce its EP program to one similar to that required for an MRS under 10 CFR 72.32(b) and additional EP reductions would occur when: (1) approximately five years of spent fuel decay time has elapsed; or (2) a licensee has demonstrated that the decay heat level of spent fuel in the pool is low enough that the fuel would not be susceptible to a zirconium fire for all spent fuel configurations. The EP program would be similar to that required for an ISFSI under 10 CFR 72.32(a) when fuel stored in the SFP has more than five years of decay time and would not change substantially when all the fuel is transferred from the SFP to an onsite ISFSI. Exemptions from offsite EP requirements have been approved when the specific site analyses show that at least ten hours is available from a partial drain down event where cooling of the spent fuel is not effective until the hottest fuel assembly reaches 900°C. Because ten hours allows sufficient time to initiate ~~mitigative~~ mitigating actions to prevent a zirconium fire in the SFP or to initiate ad hoc offsite protective actions, offsite EP plans are not necessary for these permanently defueled nuclear power plant licensees. Site Specific Basis Southern California Edison (SCE) has revised the accident analyses for those design basis accidents (DBA) that remain applicable in the permanently defueled condition. These revised accident analyses demonstrate that as of August 2013, the radiological consequences of remaining applicable DBA will not exceed the limits of the U.S. Environmental Protection Agency's (EPA) Protective Action Guides (PAGs) at the Exclusion Area Boundary

	(EAB). These were summarized in Reference 1, Enclosure 1, Section 3. ~~As shown in Enclosure 1, SCE has demonstrated a minimum of 10 hours is available for the case of spent fuel pool adiabatic heatup to 900°C.~~In addition, SCE has performed analyses to show that after the fuel has decayed for 31 months, for beyond-design-basis events where the SFP is drained, air cooling would prevent the fuel from reaching the lowest temperature where incipient cladding failure may occur (565°C). This analysis case is also addressed in RAI-011. In the event that air cooling is not possible, a minimum of 10 hours is available to take mitigating actions or, if needed, offsite protective actions using an all-hazards approach to emergency planning from the time the fuel is uncovered until it reaches the auto-ignition temperature of 900°C. This case is most often referred to as spent fuel pool adiabatic heatup and was also summarized in Reference 1, Enclosure 1, Section 3 and is the subject of RAI-012. San Onofre Nuclear Generating Station (SONGS) maintains procedures and strategies for the movement of or obtaining any necessary portable equipment that will be relied upon for mitigating the loss of spent fuel pool (SFP) water. These mitigating strategies were developed as a result of the NRC Order on Mitigating Strategies (EA-02-026) and implement the requirements of License Condition 2.C(26), "Mitigation Strategy License Condition." These diverse strategies provide defense-in-depth and ample time to provide makeup water or spray to the SFP prior to substantial radioactive release or the onset of zirconium cladding ignition. The details of these strategies are managed as commitments in response to the Mitigation Strategy License Condition. The most recent update to the commitments regarding mitigating strategies was submitted to the NRC on January 2, 2014 (ADAMS Accession #ML14007A164). The modified, site-specific basis is the fundamental technical basis for most of these exemptions. Thus, this will be referred to frequently in the balance of this table.

3. §50.47(b)(3): Arrangements for requesting and effectively using assistance resources have been made, ~~arrangements to accommodate State and local staff at the licensee's Emergency Operations Facility have been made,~~ and other organizations capable of augmenting the planned response have been identified.	~~Decommissioning power reactors~~ SONGS presents a low likelihood of any credible accident resulting in radiological releases requiring offsite protective measures because of the permanently shut down and defueled status of the reactors. An emergency operations facility would not be required. The ~~"nuclear island" or "~~Main eControl ~~r~~Room~~"~~ or ~~other location~~ an alternate command center can provide for the communication and coordination with offsite organizations for the level of support required. Also see the modified site-specific basis for Item 1 (Section 50.47(b)).
4. §50.47(b)(4): A standard emergency classification and action level scheme, the basis of which include facility system and effluent parameters, is in use by the nuclear facility licensee~~, and State and local response plans call for reliance on information provided by facility licensees for determinations of minimum initial offsite response measures~~.	SCE has proposed EALs (ADAMS Accession #ML14092A249) ~~are to be~~ consistent with Section 8 ~~(if applicable)~~ and Appendix C of NEI 99-01 Revision 6 endorsed by the NRC in a letter dated March 28, 2013. No offsite protective actions are anticipated to be necessary, so classification above the Alert level is no longer required. Also see the modified site-specific basis for Item 1 (Section 50.47(b)).
5. §50.47(b)(5): Procedures have been established for notification, by the licensee, of State and local response organizations and for notification of emergency personnel by all organizations; the content of initial and follow up messages to response organizations ~~and the public~~ has been established~~; and means to provide early notification and clear instruction to the populace within the plume exposure pathway Emergency Planning Zone have been established~~.	Per SECY-00-0145, after approximately 1 year of spent fuel decay time [and as supported by the licensee's SFP analysis], the staff believes an exception to the offsite EPA PAG standard is justified for a zirconium fire scenario considering the low likelihood of this event together with time available to take mitigative or protective actions between the initiating event and before the onset of a postulated fire. The spent fuel scoping study provides that depending on the size of the pool liner leak, releases could start anywhere from eight hours to several days after the leak starts, assuming that mitigation measures are unsuccessful. If 10 CFR 50.54(hh)(2) type of mitigation measures are successful, releases could only occur during the first several days after the fuel came out of the reactor. Therefore, offsite EP plans are not necessary for these permanently defueled nuclear power plant licensees. ~~As shown in Enclosure 1, SCE has demonstrated a minimum of 10 hours is available for the case of spent fuel pool adiabatic heatup to 900°C.~~ Also see the modified site-specific basis for Item 1 (Section 50.47(b)).

9. §50.47(b)(10): A range of protective actions has been developed for ~~the plume exposure pathway EPZ for~~ emergency workers and the public. ~~In developing this range of actions, consideration has been given to evacuation, sheltering, and, as a supplement to these, the prophylactic use of potassium iodide (KI), as appropriate. Evacuation time estimates have been developed by applicants and licensees. Licensees shall update the evacuation time estimates on a periodic basis. Guidelines for the choice of protective actions during an emergency, consistent with Federal guidance, are developed and in place, and protective actions for the ingestion exposure pathway EPZ appropriate to the locale have been developed.~~	In the unlikely event of a SFP accident at SONGS, the iodine isotopes which contribute to an off-site dose are no longer present, so potassium iodide (KI) distribution off-site would not serve as an effective or necessary supplemental protective action. The Commission responded to comments in its Statement of Considerations for the Final Rule for emergency planning requirements for ISFSIs and MRS facilities (60 FR 32435), and concluded that, "the offsite consequences of potential accidents at an ISFSI or a MRS would not warrant establishing Emergency Planning Zones." Additionally, in the Statement of Considerations for the Final Rule for EP requirements for ISFSIs and for MRS facilities (60 FR 32430), the Commission responded to comments concerning site-specific emergency planning that includes evacuation of surrounding population for an ISFSI not at a reactor site, and concluded that, "The Commission does not agree that as a general matter emergency plans for an ISFSI must include evacuation planning." [Relocate as Paragraph 1 and add Generic and Background Considerations Subheading ~~In the unlikely event of a SFP accident, the iodine isotopes which contribute to an off-site dose from an operating reactor accident are no longer present, so potassium iodide (KI) distribution off-site would no longer serve as an effective or necessary supplemental protective action.~~ Also see the modified site-specific basis for Item 1 (Section 50.47(b)) and Item 11 (Appendix E, Section IV.1) for discussion on the similarity between a permanently defueled reactor and a non-power reactor.

11. Appendix E.IV.1: The applicant's emergency plans shall contain, but not necessarily be limited to, information needed to demonstrate compliance with the elements set forth below, i.e., organization for coping with radiological emergencies, assessment actions, activation of emergency organization, notification procedures, emergency facilities and equipment, training, maintaining emergency preparedness, recovery~~, and onsite protective actions during hostile action~~. In addition, the emergency response plans submitted by an applicant for a nuclear power reactor operating license under this part, or for an early site permit (as applicable) or combined license under 10 CFR part 52, shall contain information needed to demonstrate compliance with the standards described in §50.47(b), and they will be evaluated against those standards.	The EP Final Rule published in the Federal Register (76 FR 72560; November 23, 2011) amended certain requirements in 10 CFR Part 50. Among the changes, the definition of "hostile action" was added as an act directed toward an NPP or its personnel. This definition is based on the definition of "hostile action" provided in NRC Bulletin 2005-02. NRC Bulletin 2005-02 was not applicable to nuclear power reactors that have permanently ceased operations and have certified that fuel has been removed from the reactor vessel. The NRC excluded non-power reactors (NPR) from the definition of "hostile action" at that time because an NPR is not a nuclear power plant and a regulatory basis had not been developed to support the inclusion of non-power reactors in that definition. Likewise, an SFP and an ISFSI are not nuclear power plants as defined in the NRC's regulations. The staff also considered the similarities between a decommissioning NPP and a non-power reactor to determine whether they should be included within the definition of "hostile action." NPRs pose lower radiological risks to the public from accidents than do power reactors because: (1) the core radionuclide inventories are lower as a result of their lower power levels and often shorter operating cycle lengths; and (2) NPRs have lower decay heat associated with a lower risk of core melt and fission product release in a loss-of-coolant accident. A decommissioning power reactor also has a low likelihood of a credible accident resulting in radiological releases requiring offsite protective measures. For all of these reasons, the staff concludes that a decommissioning power reactor is not a facility that falls within the definition of "hostile action." Similarly, for security, risk insights can be used to determine which targets are important to protect against sabotage. A level of security commensurate with the consequences of a sabotage event is required. The SONGS proposed PDEP retains a level of planning for such events. The severity of the consequences declines as fuel ages and, therefore, the underlying concern that a sabotage attack could cause offsite radiological consequences decreases over time. Although the considerations discussed above provide a justification for exempting SONGS from "hostile action" related requirements, some EP requirements for security-based events will be maintained. The classification of security-based events, notification of offsite authorities and coordination with offsite agencies under a comprehensive emergency management plan concept will still be required. SONGS will maintain appropriate actions for the protection of onsite personnel in a security-based event.

17. Appendix E.IV.A.1 A description of the normal plant ~~operating~~ organization.	~~Appendix A to 10 CFR Part 50, "General Design Criteria for Nuclear Power Plants," states in part: "... there may be water-cooled nuclear power units for which fulfillment of some of the General Design Criteria may not be necessary or appropriate. For plants such as these, departures from the General Design Criteria must be identified and justified." In Appendix A, a nuclear power unit is defined as a nuclear power reactor and associated equipment necessary for electric power generation and includes those structures, systems, and components required to provide reasonable assurance that the facility can be operated without undue risk to the health and safety of the public. Based on the permanently shut down and defueled status of the reactor, a decommissioning reactor is not a facility that can be operated to generate electrical power. Therefore, it does not have a "plant operating organization."~~ Based on the permanently shut down and defueled status of the reactors, the SONGS reactors are not authorized to operate under 10 CFR 50.82(a). Because SCE cannot operate the reactors, SCE does not have a "plant operating organization."
18. Appendix E.IV.A.3. ~~A description, by position and function to be performed, of the licensee's headquarters personnel who will be sent to the plant site to augment the onsite emergency organization.~~	The number of staff at decommissioning sites is generally small but is commensurate with the need to safely store spent fuel at the facility in a manner that is protective of public health and safety. ~~Decommissioning sites typically have~~ SONGS will maintain a level of emergency response that does not require response by headquarters personnel. The on-shift and emergency response positions are defined in the Permanently Defueled Emergency Plan.
20. Appendix E.IV.A.5. ~~Identification, by position and function to be performed, of other employees of the licensee with special qualifications for coping with emergency conditions that may arise. Other persons with special qualifications, such as consultants, who are not employees of the licensee and who may be called upon for assistance for emergencies shall also be identified. The special qualifications of these persons shall be described.~~	The number of staff at ~~decommissioning sites~~ SONGS is ~~generally~~ relatively small but is commensurate with the need to operate the facility in a manner that is protective of public health and safety.

21. Appendix E.IV.A.7. ~~By June 23, 2014,~~ Identification of~~, and a description of the~~ assistance expected from, appropriate State, local, and Federal agencies with responsibilities for coping with emergencies, including ~~hostile action at the site. For purposes of this appendix, "hostile action" is defined as~~ an act directed toward a nuclear power plant or its personnel that includes the use of violent force to destroy equipment, take hostages, and/or intimidate the licensee to achieve an end. This includes attack by air, land, or water using guns, explosives, projectiles, vehicles, or other devices used to deliver destructive force.	~~Requiring a decommissioning site such as SONGS to provide a description of the assistance expected from appropriate State, local, and Federal agencies with responsibilities for coping with emergencies would be an unnecessary burden, in light of the low risk of an emergency necessitating offsite assistance.~~ ~~Requiring SONGS to identify and describe the assistance expected from appropriate State, local, and Federal agencies with responsibilities for coping with hostile action at the site is unnecessary because, as explained in section IV.1, a decommissioning power reactor licensee is exempt from requirements in Appendix E related to a "hostile action."~~ SONGS presents a low likelihood of any credible accident resulting in radiological releases requiring offsite protective measures. For this reason and those described in the basis for the proposed exemption from Appendix E, Section IV.1, the regulations specific to "hostile action" requirements are not applicable to a decommissioning power reactor such as SONGS. Similarly, for security, risk insights can be used to determine which targets are important to protect against sabotage. A level of security commensurate with the consequences of a sabotage event is required. The SONGS proposed PDEP retains a level of planning for such events. The severity of the consequences declines as fuel ages and, therefore, the underlying concern that a sabotage attack could cause offsite radiological consequences decreases over time. Although the considerations provided above and in the basis the proposed exemption from Appendix E, Section IV.1 provide a justification for exempting SONGS from "hostile action" related requirements, some EP requirements for security- based events will be maintained. The classification of security-based events, notification of offsite authorities and coordination with offsite agencies under a comprehensive emergency management plan concept will still be required. SONGS will maintain appropriate actions for the protection of onsite personnel in a security-based event.

23. Appendix E.IV.A.9. ~~By December 24, 2012, for nuclear power reactor licensees, a detailed analysis demonstrating that on-shift personnel assigned emergency plan implementation functions are not assigned responsibilities that would prevent the timely performance of their assigned functions as specified in the emergency plan.~~	~~The number of staff at decommissioning sites is generally small but should be commensurate with the need to operate the facility in a manner that is protective of public health and safety. Responsibilities are well defined in the proposed emergency plan and procedures, and will be regularly tested through drills and exercises that will be audited and inspected by SCE and the NRC. The duties of the onshift personnel at a decommissioning reactor facility are not as complicated and diverse as those for an operating reactor.~~ ~~The NRC staff has considered the similarity between the staffing levels at a permanently shutdown and defueled reactor and staffing levels at NPRs. The minimal systems and equipment needed to maintain the spent nuclear fuel in the spent fuel pool or in a dry cask storage system in a safe condition requires minimal personnel and is governed by Technical Specifications. In the EP Final Rule, the NRC agreed that the staffing analysis requirement was not necessary for non-power reactor licensees due to the small staffing levels required to operate the facility. For all of these reasons, the staff has concluded that a decommissioning NPP is exempt from the requirement of 10 CFR Part 50, Appendix E, Section IV.A.9.~~ Responsibilities for on-shift and emergency response personnel are defined in the Permanently Defueled Emergency Plan and implementing procedures. The PDEP and implementing procedures will be regularly tested through drills and exercises that will be audited by SONGS and inspected by the NRC. The duties of the SONGS on-shift personnel are not as complicated and diverse as those for an operating power reactor. In the EP Final Rule (published in the Federal Register (76 FR 72560; November 23, 2011), the NRC acknowledged that the staffing analysis requirement was not necessary for non-power reactor licensees because staffing at non-power reactors is generally small, which is commensurate with operating the facility in a manner that is protective of the public health and safety. The limited systems and equipment needed to safely maintain the spent nuclear fuel in the spent fuel pool or in a dry cask storage system require minimal personnel and are governed by Technical Specifications. Event scenarios postulated in the DBAs evolve at a slow rate. SONGS on-shift personnel duties are less complex. Therefore, significant time is available to complete actions necessary to mitigate an emergency without impeding timely performance of emergency plan functions. These justifications support the conclusion that SONGS, as a decommissioning reactor, can be exempt from the requirement of 10 CFR Part 50, Appendix E, Section IV.A.9.

25. Appendix E.IV.C.1: The entire spectrum of emergency conditions that involve the alerting or activating of progressively larger segments of the total emergency organization shall be described. The communication steps to be taken to alert or activate emergency personnel under each class of emergency shall be described. Emergency action levels (based not only on onsite ~~and offsite~~ radiation monitoring information but also on readings from a number of sensors that indicate a potential emergency, ~~such as the pressure in containment and the response of the Emergency Core Cooling System~~) for notification of offsite agencies shall be described. The existence, but not the details, of a message authentication scheme shall be noted for such agencies. The emergency classes defined shall include: (1) notification of unusual events, (2) alert, ~~(3) site area emergency, and (4) general emergency~~ of 10 CFR Part 50, Appendix E, IV.C.1. These classes are further discussed in NUREG-0654/FEMA-REP-1.	SCE has proposed adoption of Permanently Defueled EALs (ADAMS Accession #ML14092A249), consistent with those described in Section 8 and Appendix C of NEI 99-01, Revision 6. This scheme eliminates the Site Area Emergency and General Emergency event classifications. Additionally, the need to base EALs on containment pressure and the response of the Emergency Core Cooling System (ECCS) is no longer appropriate for notification of offsite agencies. The NEI 99-01, Revision 6, scheme was endorsed by the NRC in a letter dated March 28, 2013 (ADAMS Accession No. ML12346A463). No offsite protective actions are anticipated to be necessary, so classification above the Alert level is no longer required. In the unlikely event of an accident at SONGS, there will be available time for event mitigation, and if necessary, implementation of offsite protective actions using an all-hazards approach to emergency planning. See the modified, site-specific basis for Item 1 (10 CFR 50.47(b)) detailing the low likelihood of a credible accident resulting in radiological releases requiring offsite protective measures. Containment parameters ~~do~~ will not provide an indication of the conditions at ~~a defueled facility~~ SONGS and emergency core cooling systems ~~are~~ will no longer be required. Other indications such as SFP level ~~or~~and temperature are used for the spent fuel in the SFPs. In the Statement of Considerations for the Final Rule for EP requirements for ISFSIs and for MRS facilities (60 FR 32430), the Commission responded to comments concerning a general emergency at an ISFSI and MRS, and concluded that, "…an essential element of a General Emergency is that a release can be reasonably expected to exceed EPA Protective Action Guidelines exposure levels off site for more than the immediate site area." The probability of a condition reaching the level above an emergency classification of alert is very low. In the event of an accident at a permanently defueled facility that meets the conditions for relaxation of EP requirements, there will be time to take ad hoc measures to protect the public." As stated in NUREG-1738, for instances of small SFP leaks or loss of cooling scenarios, these events evolve very slowly and generally leave many days for recovery efforts. Offsite radiation monitoring will be performed as the need arises. Due to the decreased risks associated with permanently defueled plants, offsite radiation monitoring systems are not required. ~~The proposed EALs were developed with the guidance provided in NEI 99-01, Revision 6.~~

26. Appendix E.IV.C.2: ~~By June 20, 2012, nuclear power reactor~~ Licensees shall establish and maintain the capability to assess, classify, and declare an emergency condition ~~within 15 minutes~~ after the availability of indications to plant operators that an emergency action level has been exceeded and shall promptly declare the emergency condition as soon as possible following identification of the appropriate emergency classification level. Licensees shall not construe these criteria as a grace period to attempt to restore plant conditions to avoid declaring an emergency action due to an emergency action level that has been exceeded. Licensees shall not construe these criteria as preventing implementation of response actions deemed by the licensee to be necessary to protect public health and safety provided that any delay in declaration does not deny the State and local authorities the opportunity to implement measures necessary to protect the public health and safety.	Generic Background Considerations In the Proposed Rule (74 FR 23254) to amend certain emergency planning requirements for 10 CFR Part 50, the NRC asked for public comment on whether the NRC should add requirements for non-power reactor licensees to assess, classify, and declare an emergency condition within 15 minutes and promptly declare an emergency condition. The NRC received several comments on these issues. The NRC believes there may be a need for the NRC to be aware of security related events early on so that an assessment can be made to consider the likelihood that the event is part of a larger coordinated attack. However, the NRC determined that further analysis and stakeholder interactions are needed prior to changing the requirements for non-power reactor licensees. Therefore, the NRC did not include requirements in the 2011 EP Final Rule for non-power reactor licensees to assess, classify, and declare an emergency condition within 15 minutes and promptly declare an emergency condition. The staff considered the similarity between a permanently defueled reactor and a non-power reactor for the low likelihood of any credible accident resulting in radiological releases requiring offsite protective measures. Site Specific Basis SONGS will maintain the capability to assess, classify, and declare an emergency condition. For a site such as SONGS that is in the permanently defueled condition, the rapidly developing scenarios associated with events postulated to occur during reactor power operation are no longer credible. The consequences resulting from the only remaining events (e.g., fuel handling accident) develop over a significantly longer period. As such, the 15 minute requirement to classify and declare an emergency is unnecessarily restrictive. Also see the modified site-specific basis for Item 1 (10 CFR 50.47(b)) detailing the low likelihood of a credible accident resulting in radiological releases requiring offsite protective measures and see Item 11 (Appendix E, Section IV.1) for discussion on the similarity between a permanently defueled reactor and a non-power reactor.
29. Appendix E.IV.D.3: A licensee shall have the capability to notify responsible State and local governmental agencies ~~within 15 minutes~~ after declaring an emergency. ~~The licensee shall demonstrate that the appropriate governmental authorities have the capability to make a public alerting and notification decision promptly on being~~	Generic Background Considerations While the capability needs to exist for the notification of offsite government agencies within a specified time period, previous exemptions have allowed for extending the State and local government agencies' notification time up to 60 minutes based on the site-specific justification provided.

~~informed by the licensee of an emergency condition. Prior to initial operation greater than 5 percent of rated thermal power of the first reactor at a site, each nuclear power reactor licensee shall demonstrate that administrative and physical means have been established for alerting and providing prompt instructions to the public within the plume exposure pathway EPZ. The design objective of the prompt public alert and notification system shall be to have the capability to essentially complete the initial alerting and initiate notification of the public within the plume exposure pathway EPZ within about 15 minutes. The use of this alerting and notification capability will range from immediate alerting and notification of the public (within 15 minutes of the time that State and local officials are notified that a situation exists requiring urgent action) to the more likely events where there is substantial time available for the appropriate governmental authorities to make a judgment whether or not to activate the public alert and notification system. The alerting and notification capability shall additionally include administrative and physical means for a backup method of public alerting and notification capable of being used in the event the primary method of alerting and notification is unavailable during an emergency to alert or notify all or portions of the plume exposure pathway EPZ population. The backup method shall have the capability to alert and notify the public within the plume exposure pathway EPZ, but does not need to meet the 15-minute design objective for the primary prompt public alert and notification system. When there is a decision to activate the alert and notification system, the appropriate governmental authorities will determine whether to activate the entire alert and notification system simultaneously or in a graduated or staged manner. The responsibility for activating such a public alert and notification system shall remain with the appropriate governmental authorities.~~	Site Specific Basis Due to the low probability of design-basis accidents or other credible events to exceed the EPA PAGs, the significantly reduced staff, and the minimal expected offsite response required, the need to provide immediate (within 15 minutes) notification has been reduced. ~~to a 60-minute requirement.~~ The reduced on-shift ERO's priorities may be responding to an emergency event prior to making offsite notifications. SCE proposes to complete emergency notifications within 60 minutes after an emergency declaration or a change in classification. State and local agency staffed Warning Points for the State of California, Orange County, San Diego County, and the Marine Corps Base, Camp Pendleton, will be notified within 60 minutes. Information would then be disseminated to the public and media in accordance with State and local plans. The 60-minute provision is consistent with the 10 CFR 50.72(a)(3) notification to the NRC and is appropriate because, for a site such as SONGS that is in the permanently defueled condition, the rapidly developing scenarios associated with events postulated to occur during reactor power operation are no longer credible and there is no need for State or local response organizations to implement any protective actions. Also see the modified site-specific basis for Item 1 (50.47(b)) and Item 9 (50.47(b)(10)) for a discussion of the dose consequences from DBA as well as the low probability of beyond DBA events at SONGS to exceed the EPA PAGs.

32. Appendix E.IV.E.8.a.(ii): ~~For nuclear power reactor licensees, a licensee onsite operational support center;~~	NUREG-0696, "Functional Criteria for Emergency Response Facilities," provides that the operational support center (OSC) is an onsite area separate from the ~~control room~~ Main Control Room and the TSC where licensee operations support personnel will assemble in an emergency. For a permanently defueled power plant such as SONGS, the rapidly developing scenarios associated with events postulated to occur during reactor power operation are no longer credible. The number of operations support personnel necessary for response to the remaining credible events is accordingly much smaller. As a result, an OSC is no longer required to meet its original purpose of an assembly area for plant logistical support during an emergency. The OSC function can be incorporated into another facility.
38. Appendix E.IV.E.9.c.~~Provision for communications among the nuclear power reactor control room, the onsite technical support center, and the emergency operations facility; and among the nuclear facility, the principal State and local emergency operations centers, and the field assessment teams. Such communications systems shall be tested annually.~~	~~Because of the~~The SONGS analysis confirmed the low probability of design-basis accidents or other credible events that would be expected to exceed the EPA PAGs and determined that there is sufficient ~~the~~ available time for event mitigation and if needed, implementation of offsite protective actions using a comprehensive emergency management plan. Therefore, there is no need for the TSC, EOF or field assessment teams. Also see ~~justification~~ the modified site-specific basis for Item 3 (50.47(b)(3)). The provisions remaining in Appendix E to 10 CFR 50, Section IV.E.9.a, b, and d include the necessary requirements. ~~Communication with State and local EOCs is maintained to coordinate assistance on site if required.~~

40. E.IV.F.1: The program to provide for: (a) The training of employees and exercising, by periodic drills, of emergency plans to ensure that employees of the licensee are familiar with their specific emergency response duties, and (b) The participation in the training and drills by other persons whose assistance may be needed in the event of a radiological emergency shall be described. This shall include a description of specialized initial training and periodic retraining programs to be provided to each of the following categories of emergency personnel: i. Directors and/or coordinators of the plant emergency organization; ii. Personnel responsible for accident assessment, including control room shift personnel; iii. Radiological monitoring teams; iv. Fire control teams (fire brigades); v. Repair and damage control teams; vi. First aid and rescue teams; vii. Medical support personnel; viii. ~~Licensee's headquarters support personnel;~~ ix. Security personnel. In addition, a radiological orientation training program shall be made available to local services personnel; e.g., local emergency services~~/Civil Defense~~, local law enforcement personnel~~, local news media persons~~.	The number of staff at decommissioning sites is generally small but is commensurate with the need to safely store spent fuel at the facility in a manner that is protective of public health and safety. Decommissioning sites typically have a level of emergency response that does not require additional response by headquarters personnel. Therefore, the NRC staff has stated that it considers exempting licensee's headquarters personnel from training requirements reasonable. Also see the basis for Item 1 (Section 50.47(b)) There will no longer be any expected actions that must be taken by the public during an emergency, so it is no longer necessary to pre-plan the dissemination of this information to the public or to provide radiological orientation training to local news media persons. The phrase "Civil Defense" is no longer a commonly used term and is no longer applicable as an example in the regulation.

43. Appendix E.IV.F.2.a ~~A full participation exercise which tests as much of the licensee, State, and local emergency plans as is reasonably achievable without mandatory public participation shall be conducted for each site at which a power reactor is located. Nuclear power reactor licensees shall submit exercise scenarios under § 50.4 at least 60 days before use in a full participation exercise required by this paragraph 2.a.~~ F.2.a.(i), (ii), and (iii) are not applicable.	~~Since the need for off-site emergency planning is relaxed due to the low probability of design-basis accidents or other credible events that would be expected to exceed the limits of EPA PAGs and the available time for event mitigation, no off-site emergency plans are in place to test.~~ See the modified site-specific basis for Item 1 (50.47(b)). On that basis, SCE has requested exemption from offsite plans. With no offsite emergency plan, there is no need for full participation exercises that include offsite agency participation. The intent of submitting exercise scenarios at power reactors is to check that licensees utilize different scenarios in order to prevent the preconditioning of responders at power reactors. For permanently defueled sites such as SONGS, there are limited events that could occur and the ~~previously routine~~ potential progression to General Emergency in power reactor site scenarios is therefore not applicable to a decommissioning site. SONGS should be exempt from F.2.a.(i)-(iii) because SONGS ~~is~~ would be exempt from the umbrella provision of F.2.a.
46. Appendix E.IV.F.2.d: ~~Each State with responsibility for nuclear power reactor emergency preparedness should fully participate in the ingestion pathway portion of exercises at least once every exercise cycle. In States with more than one nuclear power reactor plume exposure pathway EPZ, the State should rotate this participation from site to site. Each State with responsibility for nuclear power reactor emergency preparedness should fully participate in a hostile action exercise at least once every cycle and should fully participate in one hostile action exercise by December 31, 2015. States with more than one nuclear power reactor plume exposure pathway EPZ should rotate this participation from site to site.~~	~~See basis for section IV.2~~. See the modified site-specific basis for Item 1 (Section 50.47(b))
47. Appendix E.IV.F.2.e: Licensees shall enable any State or local government ~~located within the plume exposure pathway EPZ~~ to participate in the licensee's drills when requested by such State or local government	~~See basis for section IV.2.~~ See the modified site-specific basis for Item 1 (Section 50.47(b)).

48. Appendix E.IV.F.2.f: Remedial exercises will be required if the emergency plan is not satisfactorily tested during the biennial exercise, such that NRC~~, in consultation with FEMA,~~ cannot (1) find reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency or (2) determine that the Emergency Response Organization (ERO) has maintained key skills specific to emergency response. ~~The extent of State and local participation in remedial exercises must be sufficient to show that appropriate corrective measures have been taken regarding the elements of the plan not properly tested in the previous exercises.~~	The U.S. Federal Emergency Management Agency (FEMA) is responsible for the evaluation of an offsite response exercise. No action is expected from State or local government organizations in response to an event at ~~a decommissioning site~~ SONGS other than firefighting, law enforcement and ambulance/medical services. SCE has Letters of Agreement in place for those services. Offsite response organizations will continue to take ad hoc actions to protect the health and safety of the public as they would at any other industrial site.
49. Appendix E.IV.F.2.i: Licensees shall use drill and exercise scenarios that provide reasonable assurance that anticipatory responses will not result from preconditioning of participants. ~~Such scenarios for nuclear power reactor licensees must include a wide spectrum of radiological releases and events, including hostile action.~~ Exercise and drill scenarios as appropriate must emphasize coordination among onsite and offsite response organizations.	For permanently defueled sites such as SONGS, there are limited events with dose consequences potentially exceeding the EPA PAGs that could occur. ~~and the~~ Therefore, the previously routine progression to General Emergency in power reactor site scenarios is ~~not~~ no longer applicable ~~to a decommissioning site. Therefore~~ and SONGS should not be expected to demonstrate response to a wide spectrum of events. Also see the modified site-specific basis for Item 1 (50.47(b)) detailing the low likelihood of a credible accident resulting in radiological releases requiring offsite protective measures and the basis for Item 11 (Appendix E, Section IV.1) regarding hostile action.

Enclosure 3

Regulatory Commitments

Regulatory Commitment	Location	One-time or recurring	Scheduled Completion Date
Procedures will be revised to ensure that walk-downs and patrols [of SFP systems] are periodically (no less than once a shift) performed.	Enclosure 1, RAI 11 response, Table Item for SDA#2	Recurring	Prior to implementation of the proposed Permanently Defueled Emergency Plan